Clock & Timing Products

Overview | Samples | Dev Tools

OSCILLATORS

- Ultra-Low Power MEMS (<1.3mA)
- Low-Power MEMS (< 5mA)
- Low-Jitter MEMS (<1ps)
- Ultra-Low Jitter (<0.2ps)
- High-Frequency TCXO
- Multi-Output Oscillators
- Oscillator Die

CLOCK GENERATORS

- Ultra-Low Jitter (<0.1ps)
- Low Jitter (1ps)
- Low Power (<2mA)
- PCIe Clock Generators
- Clock Conditioning
- Clock Synthesizers
- Timers

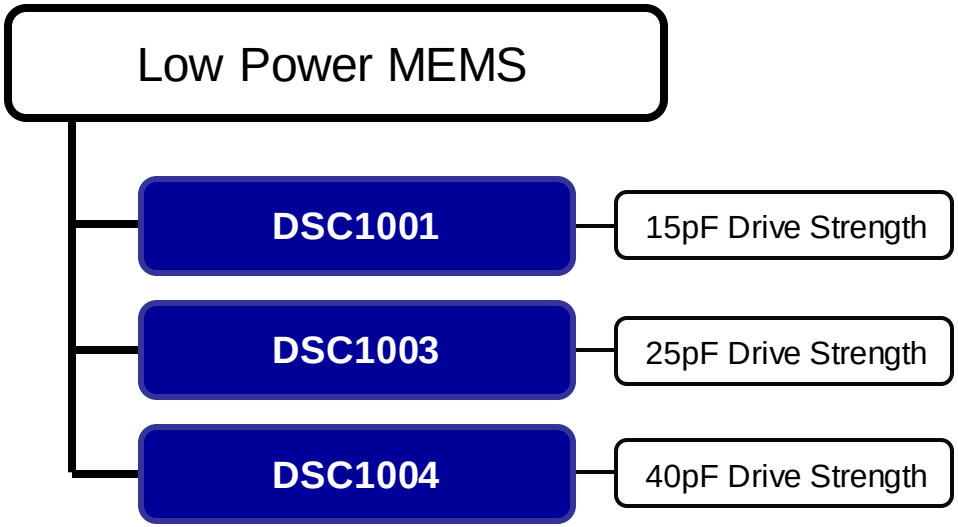
CLOCK & DATA DISTRIBUTION

- Fan Out Buffers
- Zero-Delay Buffers
- PCIe Buffers
- Drivers & Receivers

Click on boxes to navigate

Low-Power MEMS Oscillators

Product Tree



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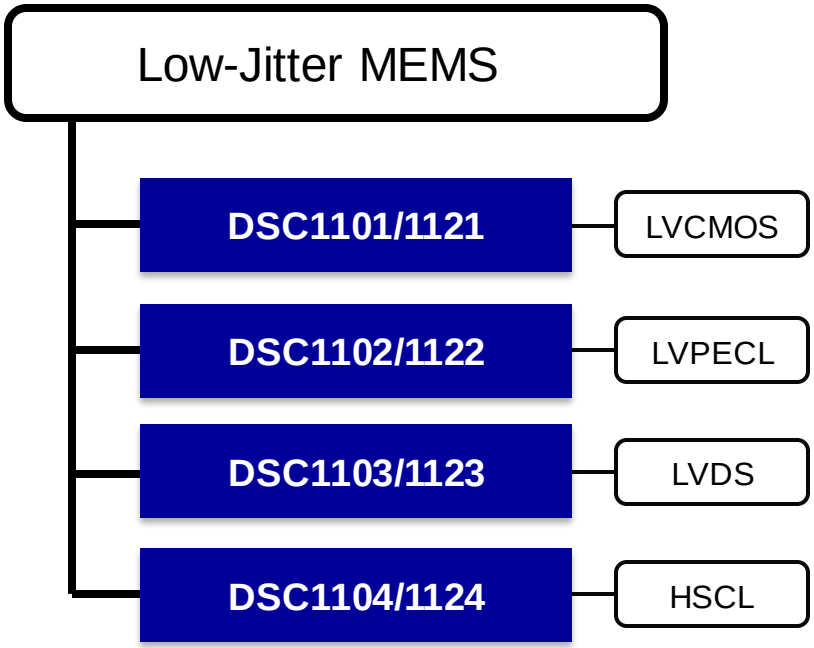
Low-Jitter MEMS Oscillators

Product Tree

ClockWorks CONFIGURATOR



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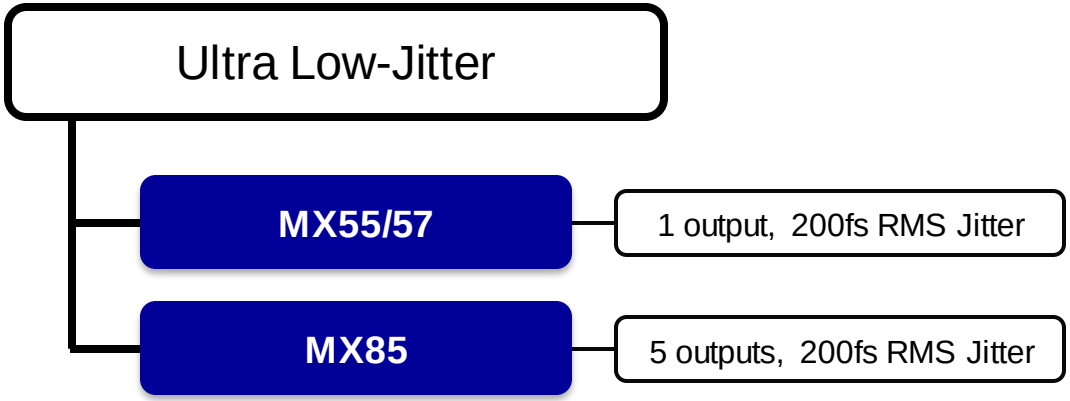
Ultra-Low Jitter Oscillators

Product Tree

ClockWorks CONFIGURATOR



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High-Frequency TCXO Oscillators

Product Tree

ClockWorks CONFIGURATOR

High Frequency TCXO

MXT57 — Single output, 200fs RMS Jitter, ±25ppm

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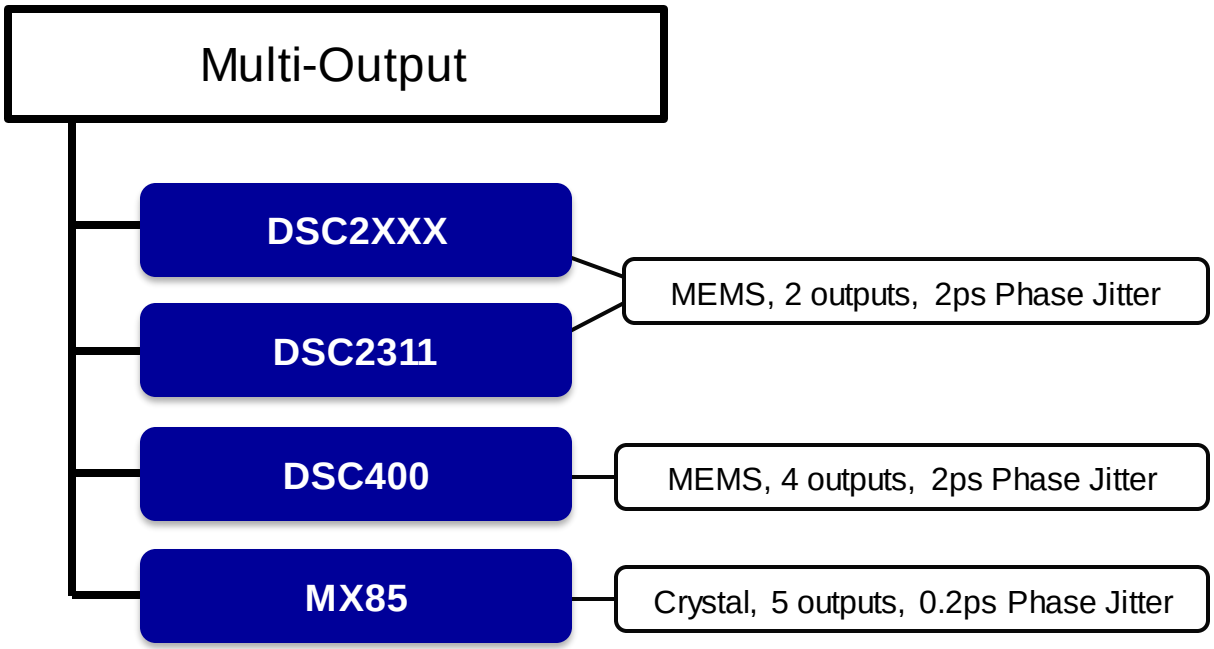
Multi-Output Oscillators

Product Tree

ClockWorks CONFIGURATOR



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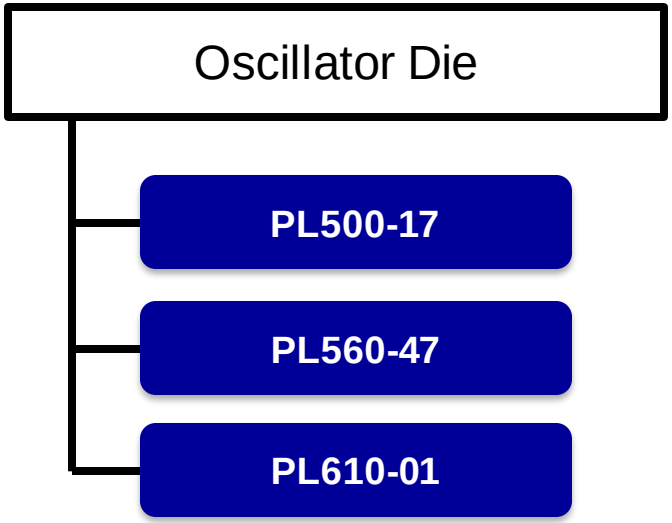
Oscillator Die

Product Tree



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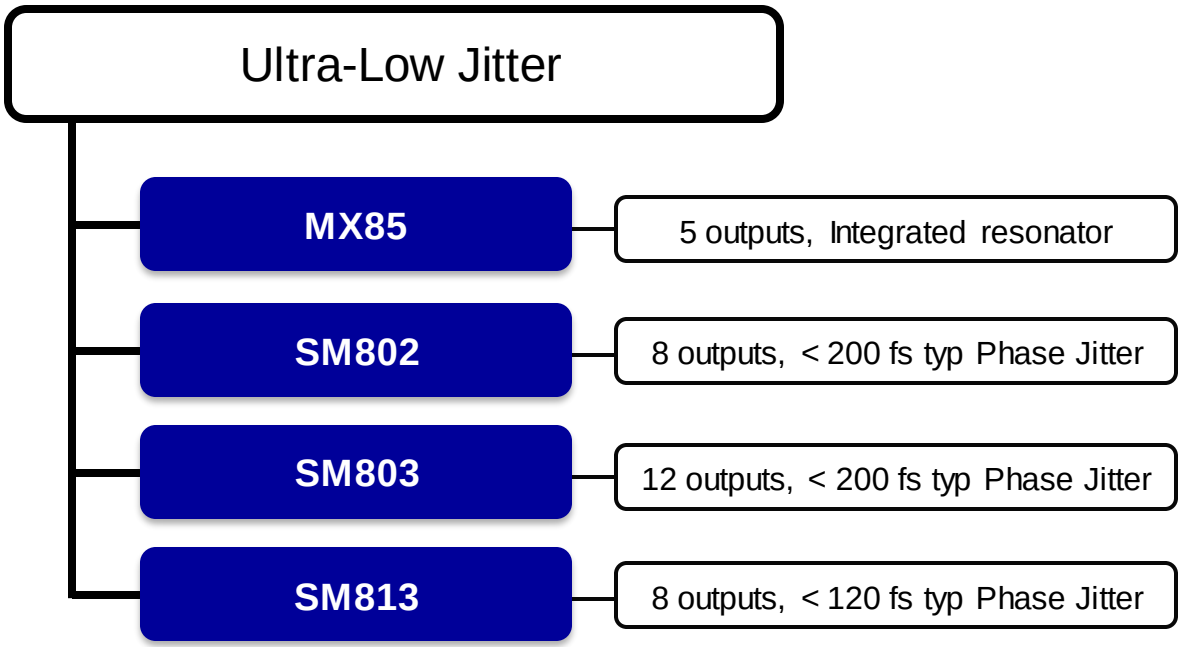
Ultra-Low Jitter Clock Generators

Product Tree

ClockWorks CONFIGURATOR



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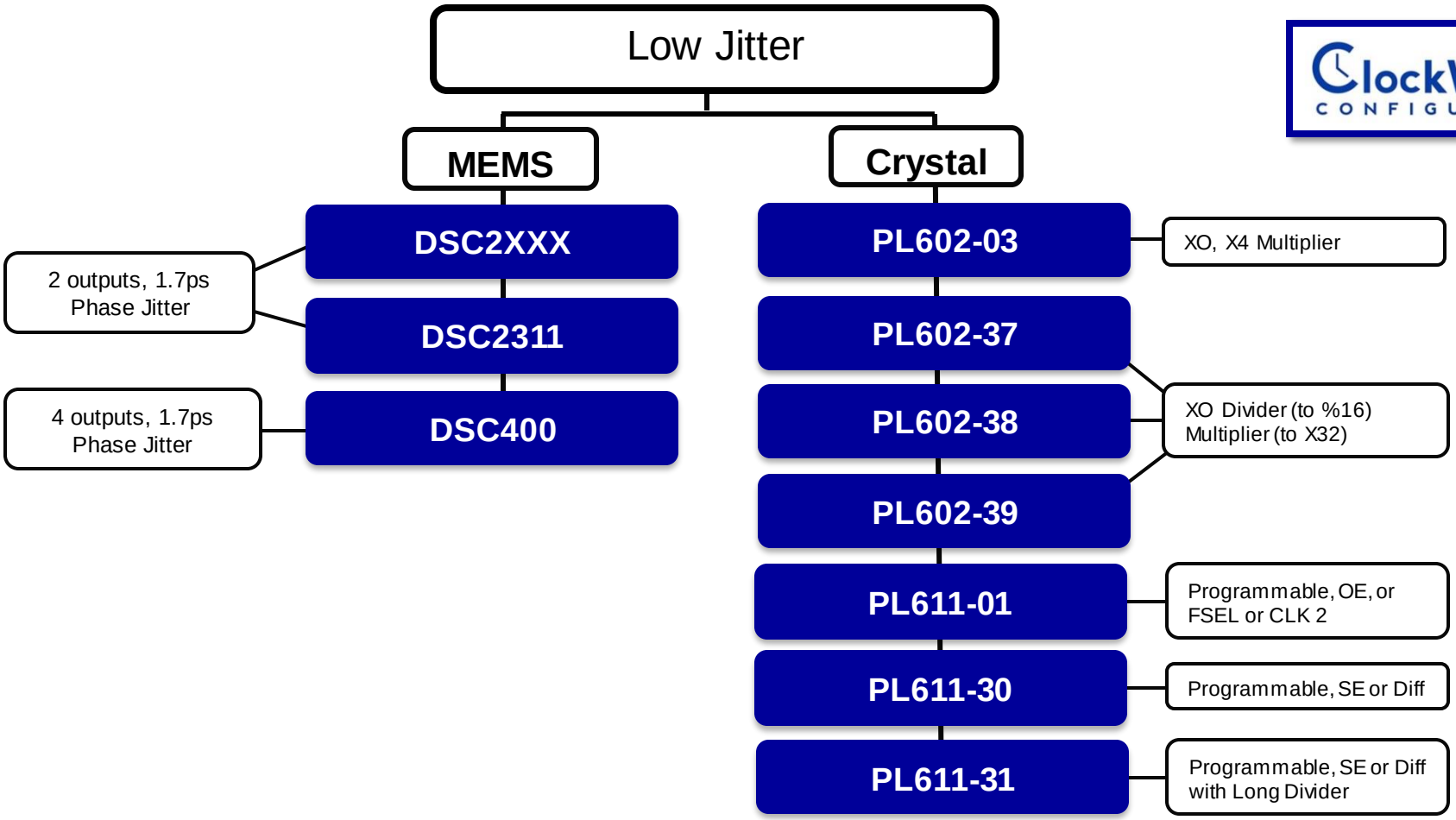
Low Jitter Clock Generators

Product Tree



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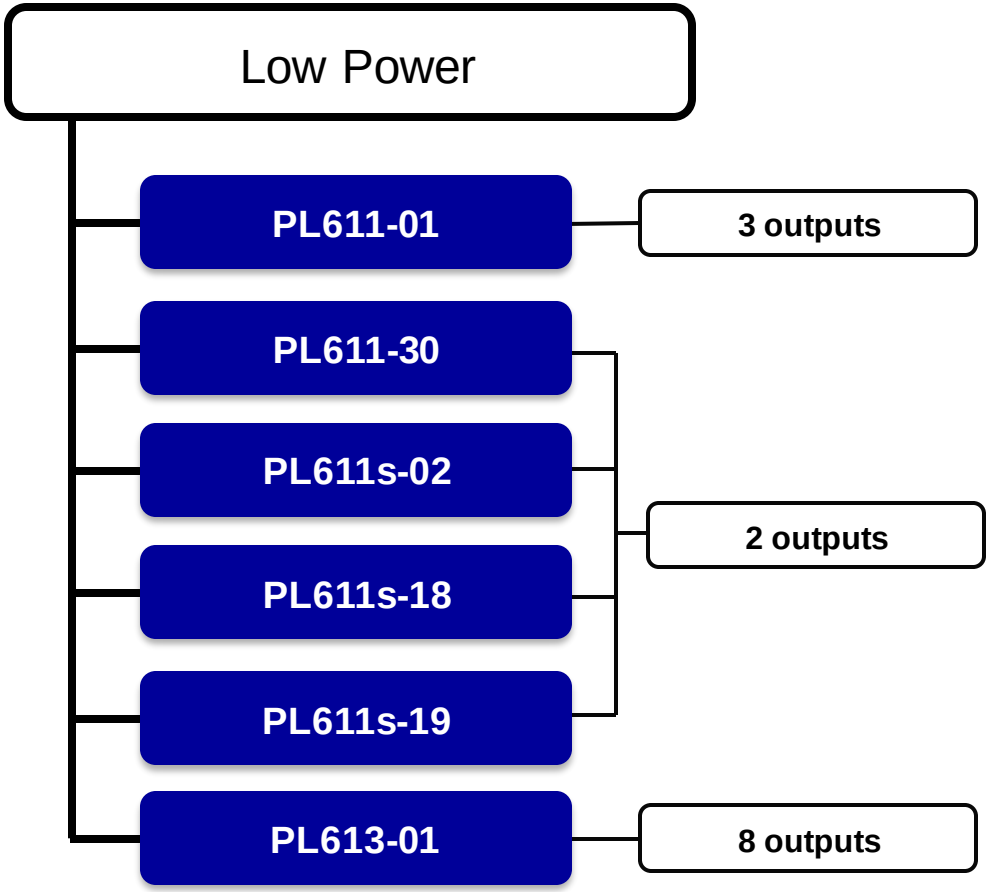
Low Power Clock Generators

Product Tree

ClockWorks CONFIGURATOR



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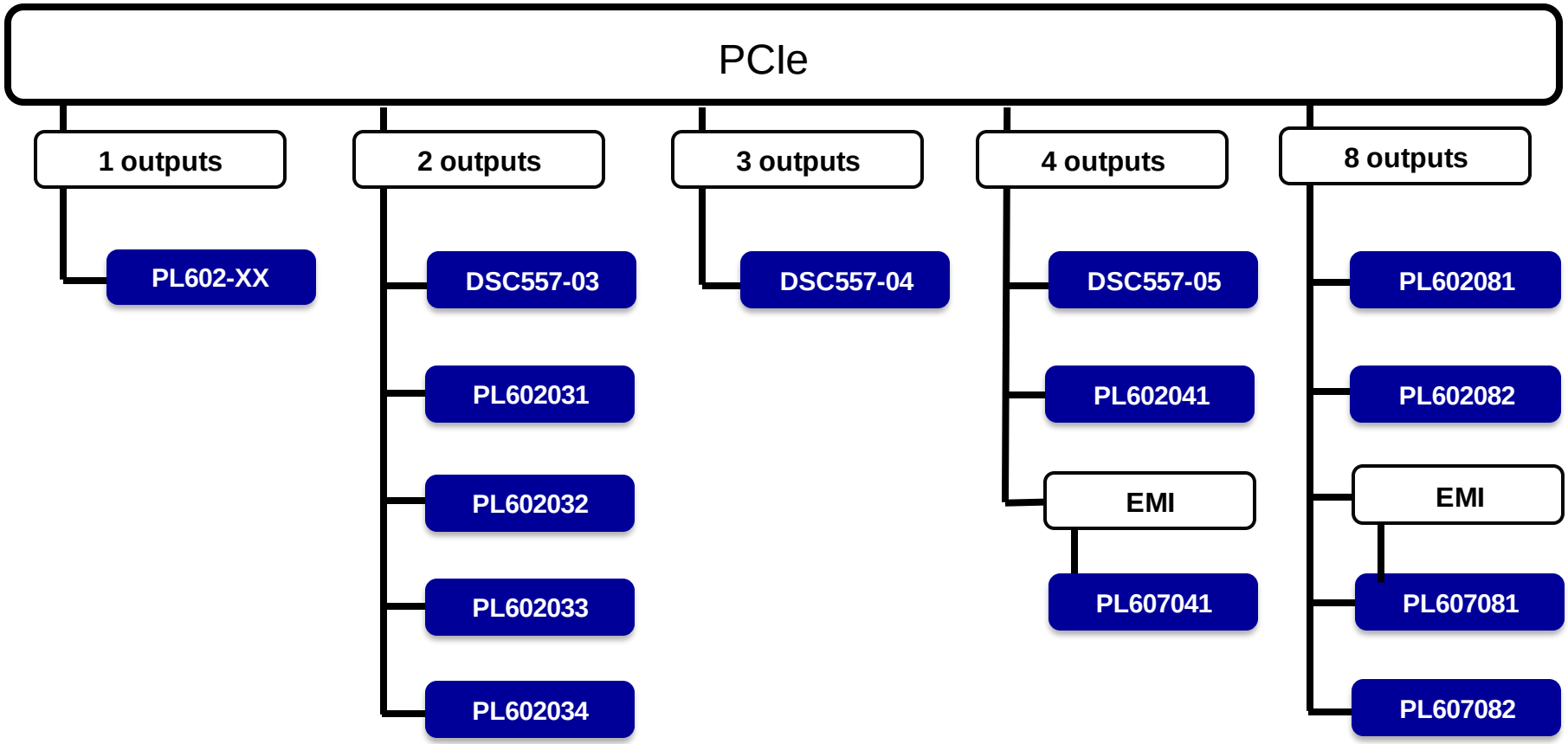
PCIe Clock Generators

Product Tree



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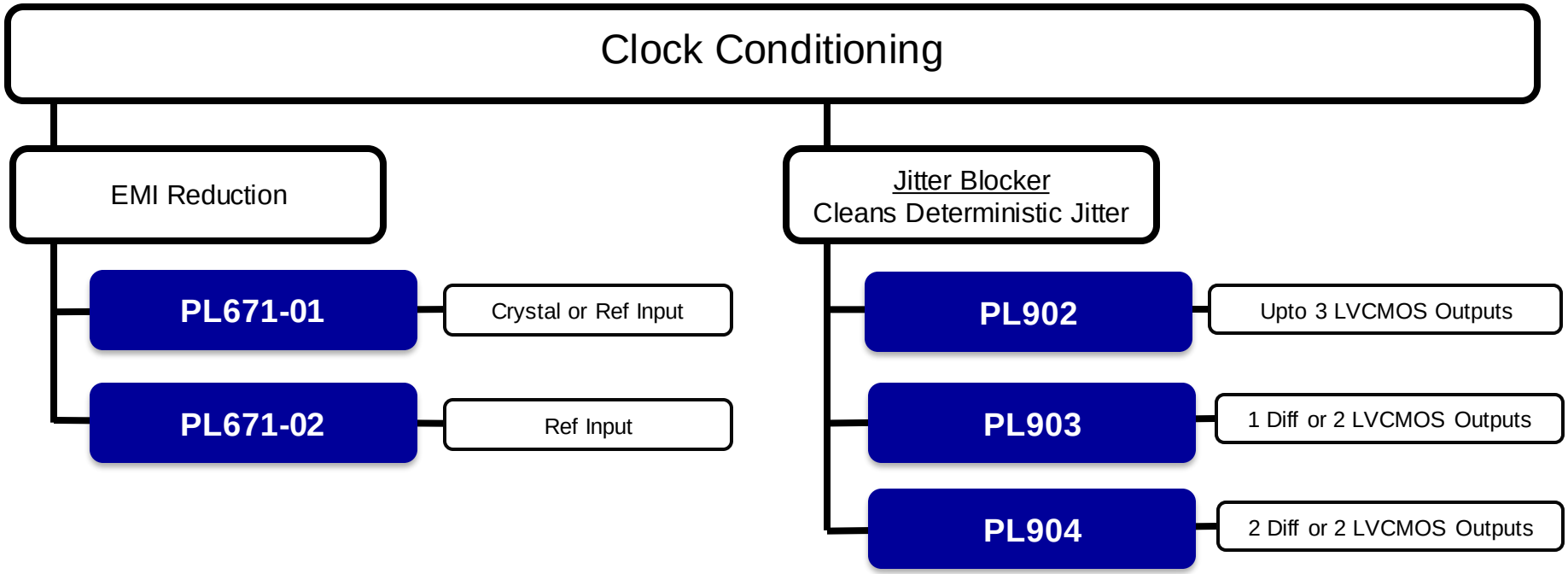
Clock Conditioning

Product Tree



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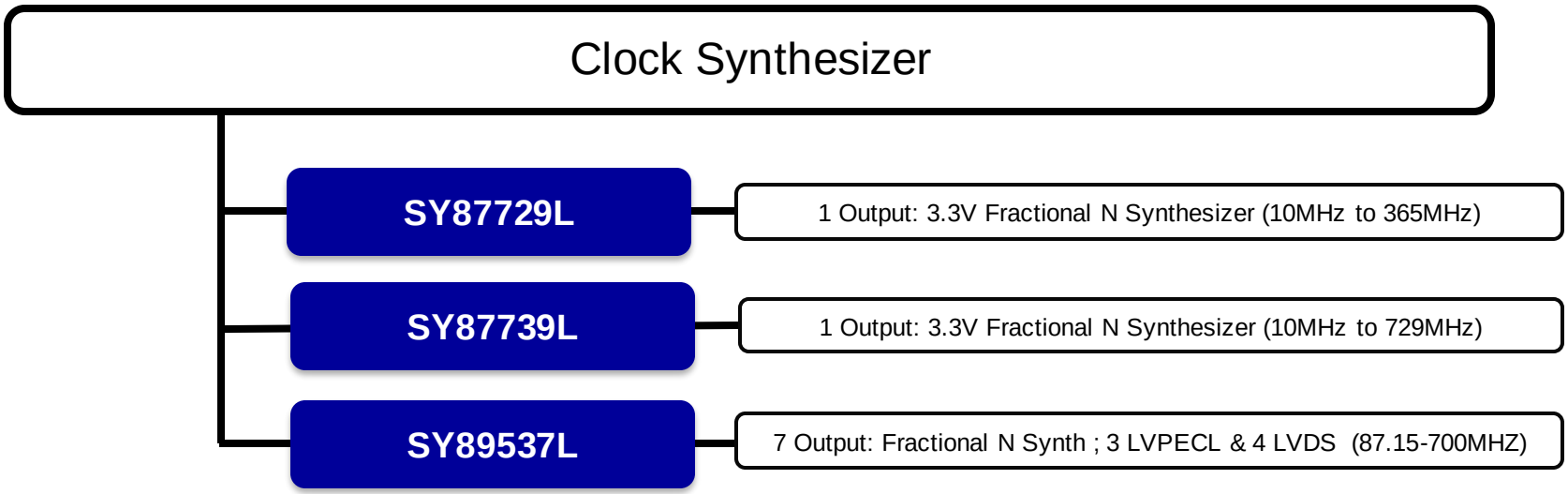
Clock Synthesizers

Product Tree



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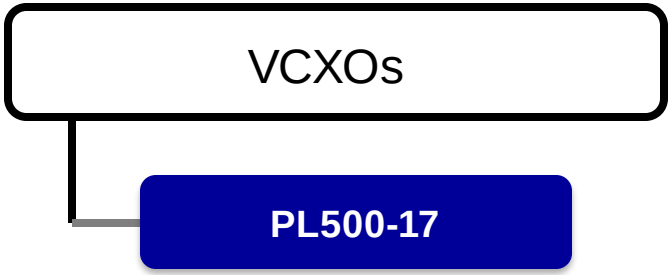
VCXOs Clock Generators

Product Tree



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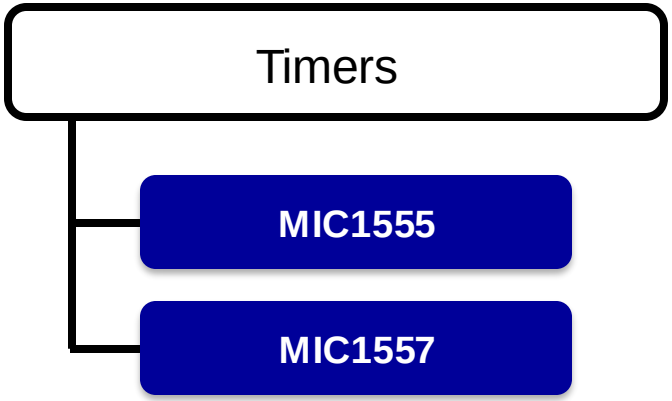
Timers

Product Tree



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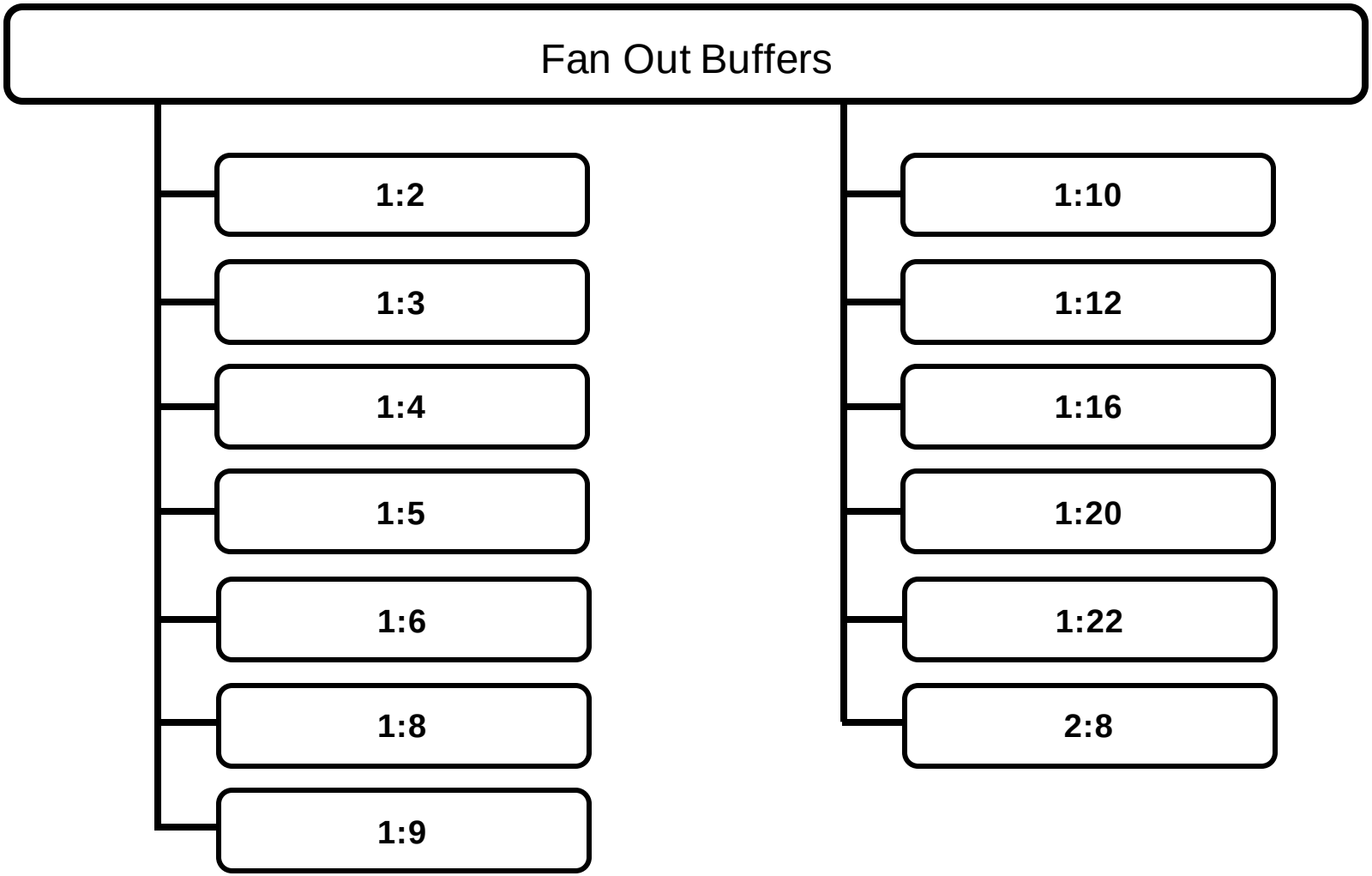
Fan Out Buffers

Product Tree



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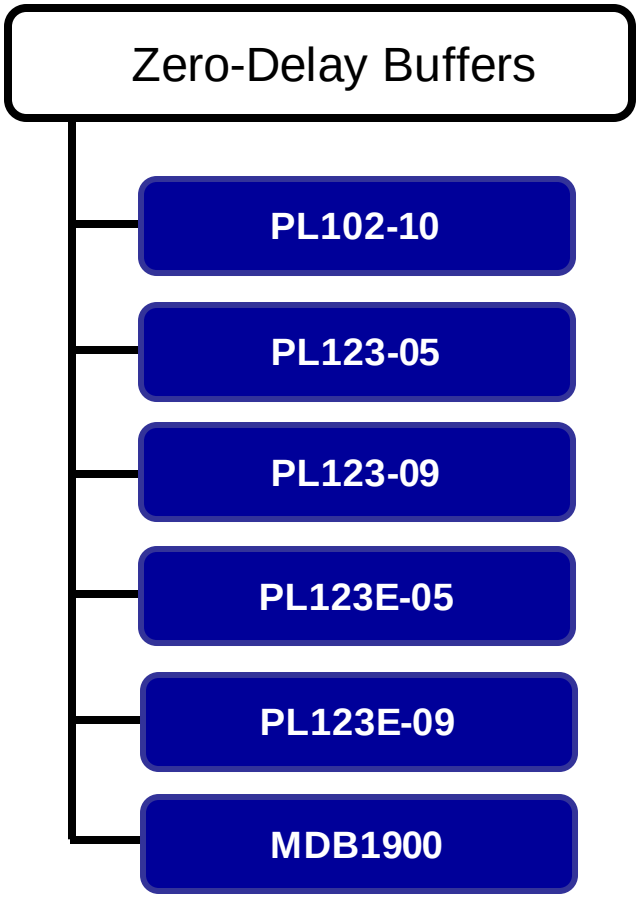
Zero-Delay Buffers

Product Tree



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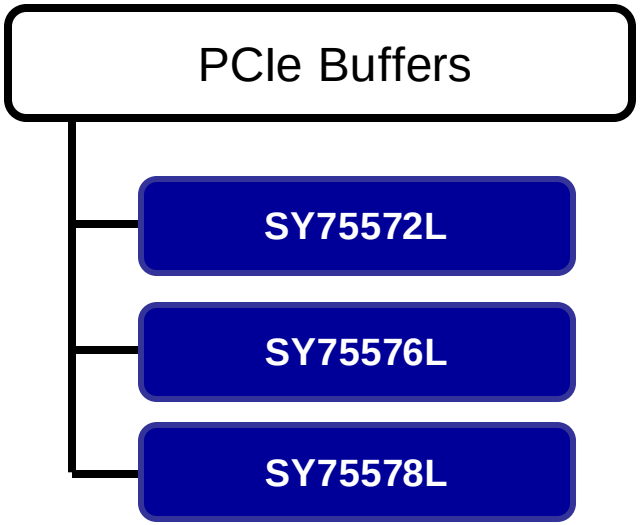
PCIe Buffers

Product Tree



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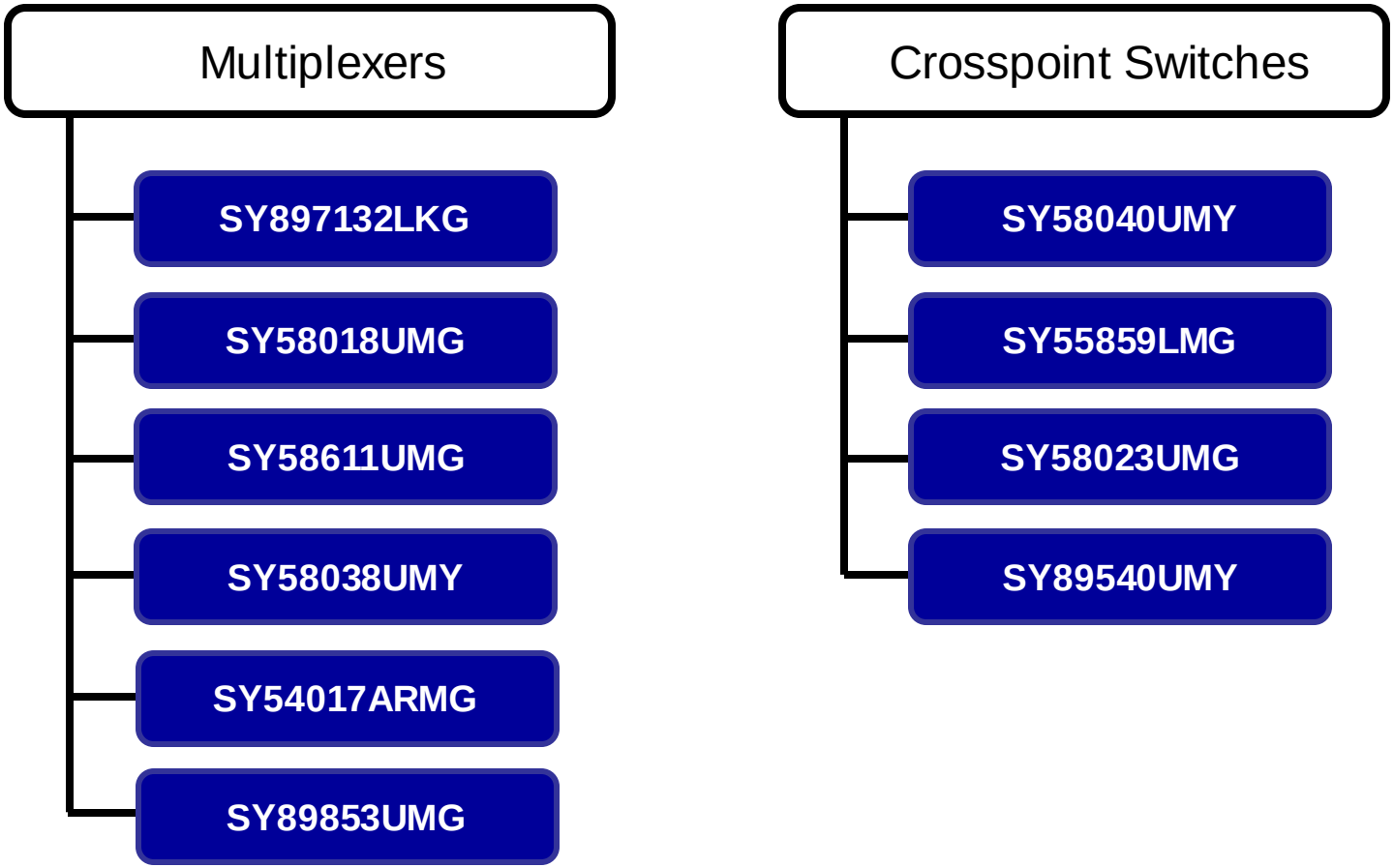
Multiplexers and Crosspoint Switches

Product Tree



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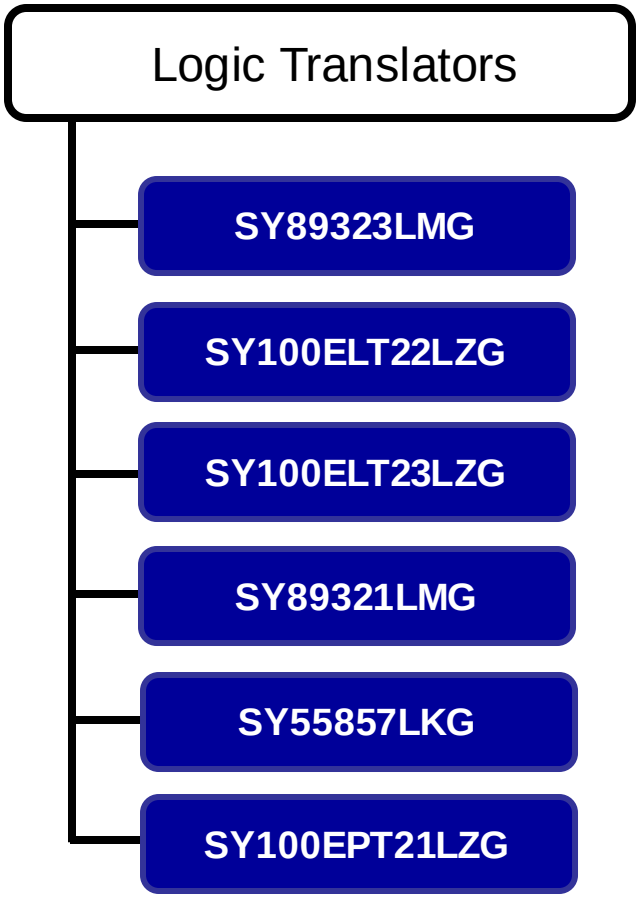
Logic Translators

Product Tree



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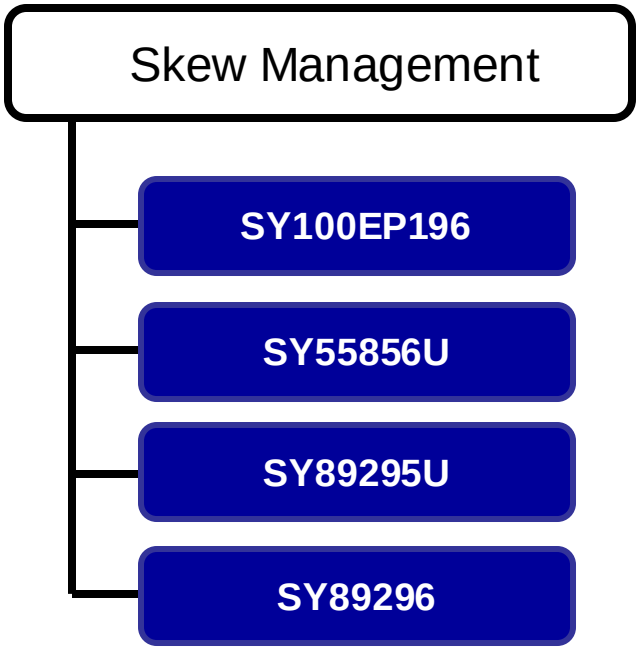
Skew Management

Product Tree



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Registers and Flip-Flops

Product Tree

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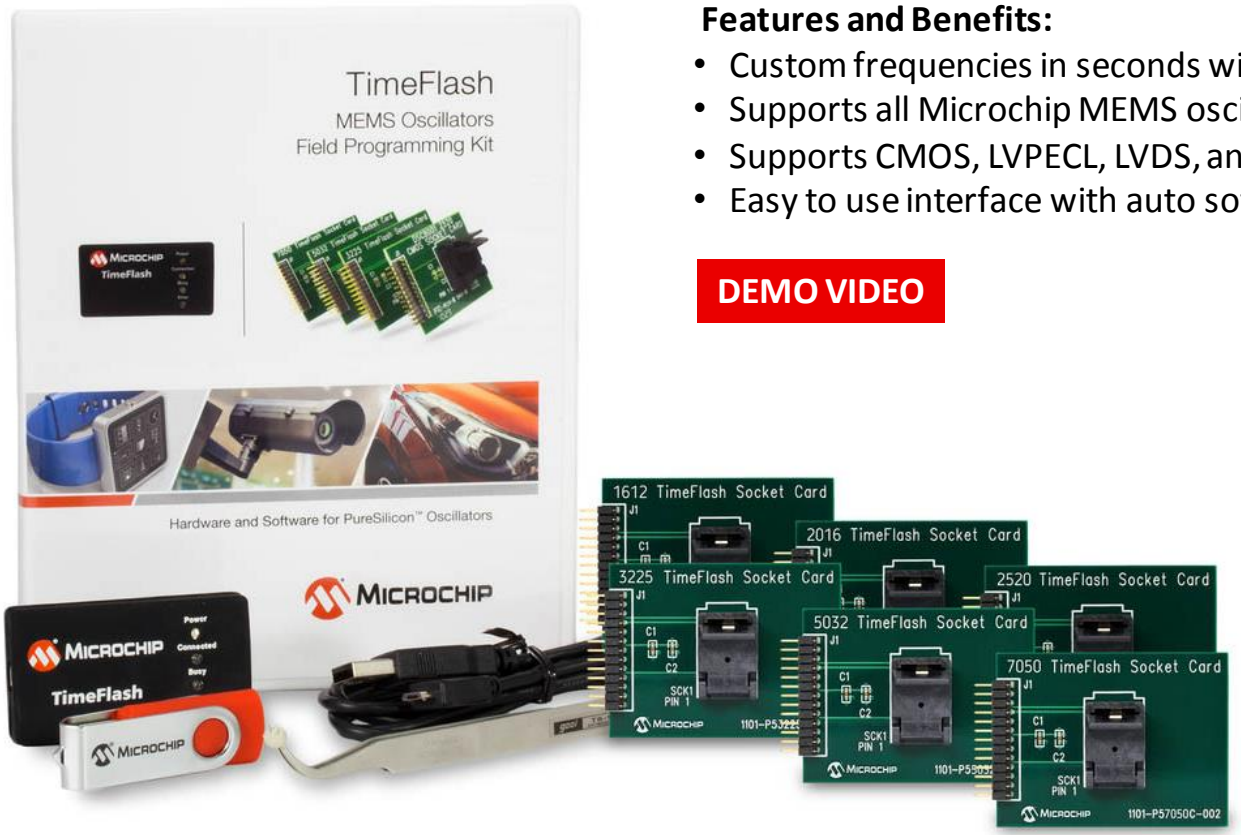
TimeFlash Field Programming Kit

Online Info

Product Tree

Buy Now

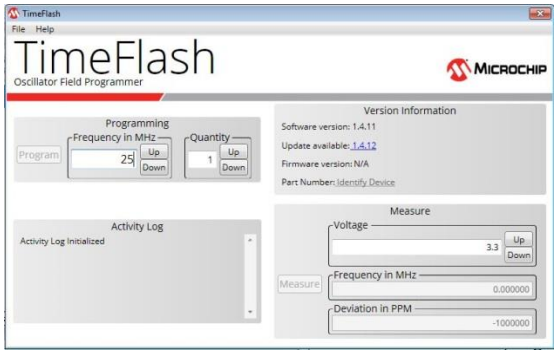
The TimeFlash programmer allows users to rapidly program Microchip's field **programmable MEMS oscillator** to a custom frequency in seconds, minimizing design time by enabling fast prototyping and testing. Our MEMS oscillators are available in industry standard packages that are drop-in replacements to standard crystal oscillators.



Features and Benefits:

- Custom frequencies in seconds with immediate design verification
- Supports all Microchip MEMS oscillator package sizes
- Supports CMOS, LVPECL, LVDS, and HCSL output types
- Easy to use interface with auto software update

DEMO VIDEO



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ClockWorks Configurator

Online Info

Product Tree

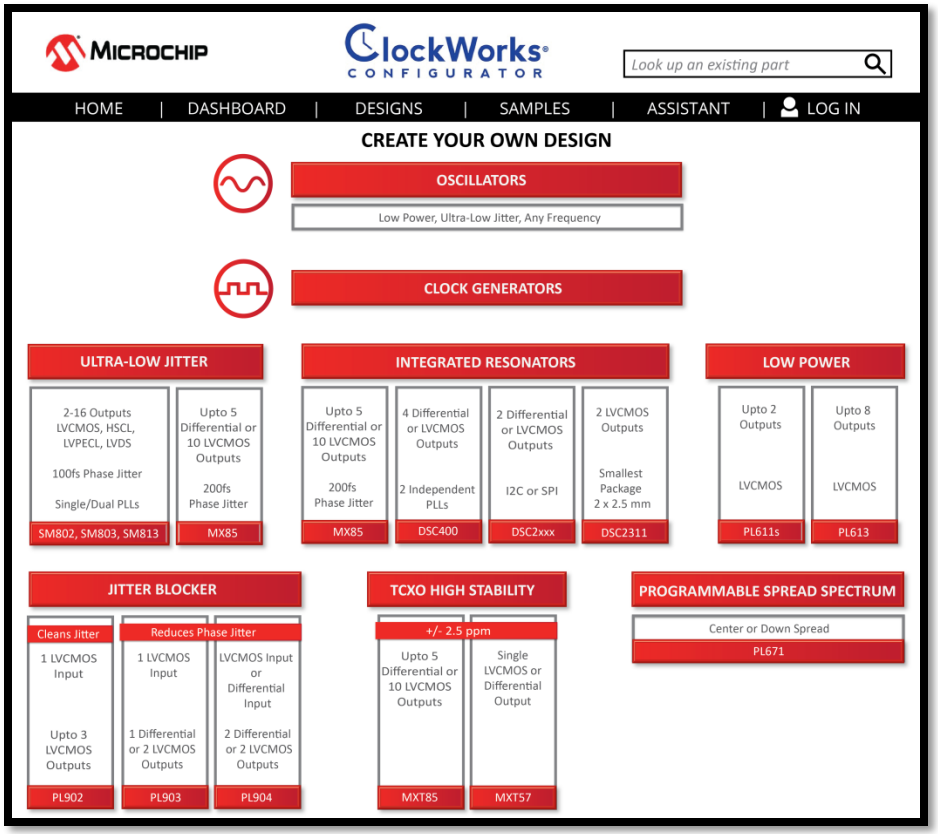
ClockWorks Configurator is an easy-to-use online tool that allows users to create an orderable part number and get samples within few weeks. Simply go to http://clockworks.microchip.com/Timing and start configuring your **oscillators and clock generators**.

Features & benefits:

- User-friendly interface helps you choose the right device for your application
- Provides instant datasheets
- Dashboard supports sample and design tracking
- Performs search by part number, design ID or sample ID

TUTORIAL VIDEO

Configure & Order Samples



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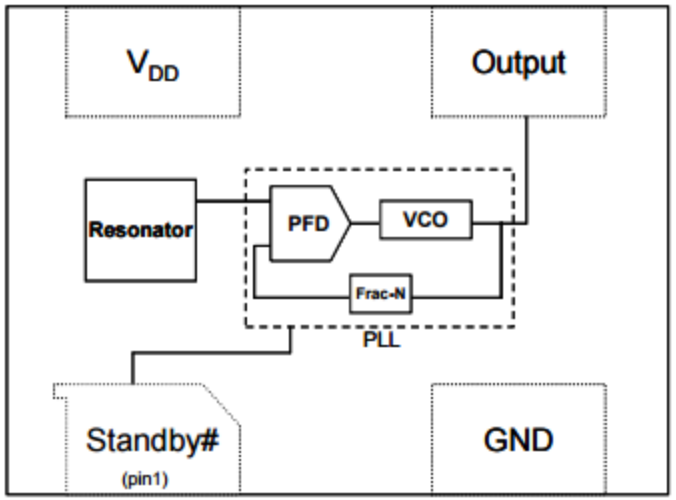
DSC1001/1003/1004

Online Datasheet

Product Tree

Features:

- Frequency Range: 1 to 150MHz
- Exceptional Stability over Temperature
  - ±10 PPM, ±25 PPM, ±50 PPM
- Operating voltage of 1.7V to 3.6V
- Operating Temperature Range
  - Ext. Industrial -40°C to 105°C
  - Industrial -40°C to 85°C
  - Ext. Commercial -20°C to 70°C
  - Commercial 0°C to 70°C
- Low Operating and Standby Current
  - 5mA Operating (40MHz)
  - 15µA Standby
- Ultra Miniature Footprint
  - 2.5mm x 2.0mm x 0.85mm
  - 3.2mm x 2.5mm x 0.85mm
  - 5.0mm x 3.2mm x 0.85mm
  - 7.0mm x 5.0mm x 0.85mm
- MIL-STD 883 Shock and Vibration Resistant
- Pb-Free, RoHS, Reach SVHC Compliant
- AEC-Q100 Reliability Qualified



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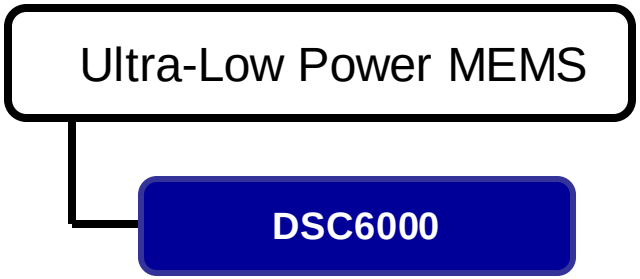
Ultra-Low Power MEMS Oscillator

Product Tree



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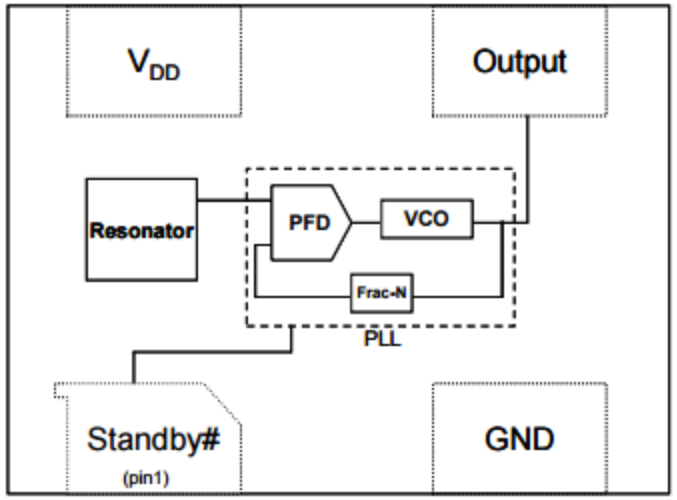
DSC1030

Online Datasheet

Product Tree

Features:

- Frequency Range: 1 to 150MHz
- Exceptional Stability over Temperature
  - ±25 PPM, ±50 PPM
- Operating voltage of 2.7V to 3.3V
- Operating Temperature Range
  - Industrial -40°C to 85°C
  - Ext. Commercial -20°C to 70°C
  - Commercial 0°C to 70°C
- Low Operating and Standby Current
  - 3mA Operating (40MHz)
  - 1µA Standby
- Ultra Miniature Footprint
  - 2.5mm x 2.0mm x 0.85mm
  - 3.2mm x 2.5mm x 0.85mm
  - 5.0mm x 3.2mm x 0.85mm
  - 7.0mm x 5.0mm x 0.85mm
- Excellent Shock and Vibration Resistant
- Lead free, RoHS, & Reach SVHC Compliant



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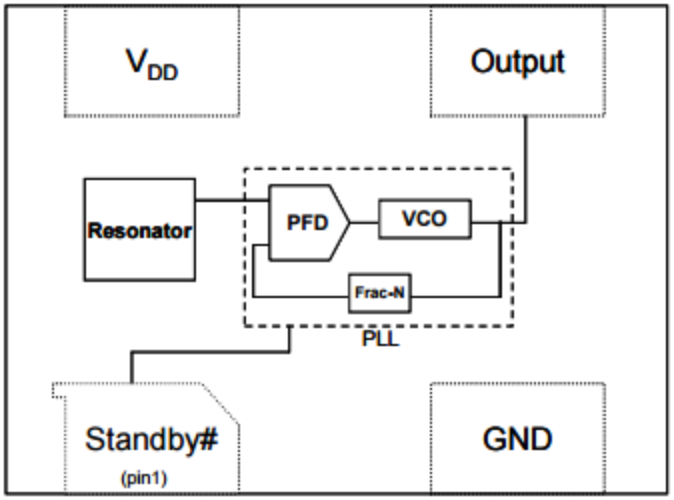
DSC1028

Online Datasheet

Product Tree

Features:

- Frequency Range: 1 to 150MHz
- Exceptional Stability over Temperature
  - ±25 PPM, ±50 PPM
- Operating voltage of 2.6V to 3.0V
- Operating Temperature Range
  - Industrial -40°C to 85°C
  - Ext. Commercial -20°C to 70°C
  - Commercial 0°C to 70°C
- Low Operating and Standby Current
  - 3mA Operating (40MHz)
  - 1µA Standby
- Ultra Miniature Footprint
  - 2.5mm x 2.0mm x 0.85mm
  - 3.2mm x 2.5mm x 0.85mm
  - 5.0mm x 3.2mm x 0.85mm
  - 7.0mm x 5.0mm x 0.85mm
- Excellent Shock and Vibration Resistant
- Lead free, RoHS, & Reach SVHC Compliant



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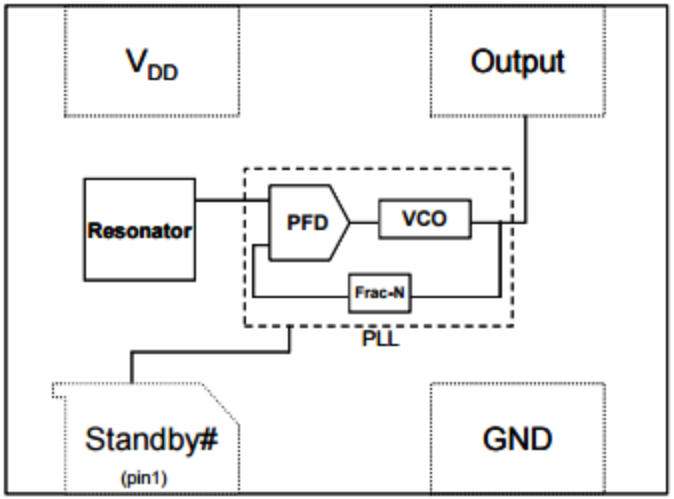
DSC1025

Online Datasheet

Product Tree

Features:

- Frequency Range: 1 to 150MHz
- Exceptional Stability over Temperature
  - ±25 PPM, ±50 PPM
- Operating voltage of 2.3V to 2.7V
- Operating Temperature Range
  - Industrial -40°C to 85°C
  - Ext. Commercial -20°C to 70°C
  - Commercial 0°C to 70°C
- Low Operating and Standby Current
  - 3mA Operating (40MHz)
  - 1µA Standby
- Ultra Miniature Footprint
  - 2.5mm x 2.0mm x 0.85mm
  - 3.2mm x 2.5mm x 0.85mm
  - 5.0mm x 3.2mm x 0.85mm
  - 7.0mm x 5.0mm x 0.85mm
- Excellent Shock and Vibration Resistant
- Lead free, RoHS, & Reach SVHC Compliant



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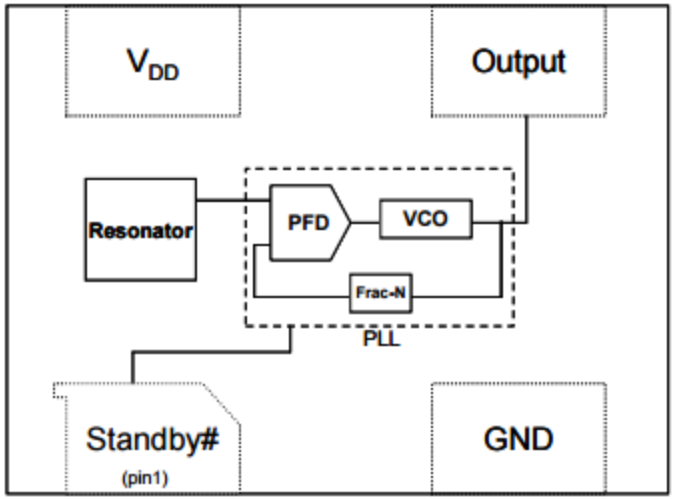
DSC1018

Online Datasheet

Product Tree

Features:

- Frequency Range: 1 to 150MHz
- Exceptional Stability over Temperature
  - ±25 PPM, ±50 PPM
- Operating voltage of 1.65V to 1.95V
- Operating Temperature Range
  - Industrial -40°C to 85°C
  - Ext. Commercial -20°C to 70°C
  - Commercial 0°C to 70°C
- Low Operating and Standby Current
  - 3mA Operating (40MHz)
  - 1µA Standby
- Ultra Miniature Footprint
  - 2.5mm x 2.0mm x 0.85mm
  - 3.2mm x 2.5mm x 0.85mm
  - 5.0mm x 3.2mm x 0.85mm
  - 7.0mm x 5.0mm x 0.85mm
- Excellent Shock and Vibration Resistant
- Lead free, RoHS, & Reach SVHC Compliant



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DSC6000

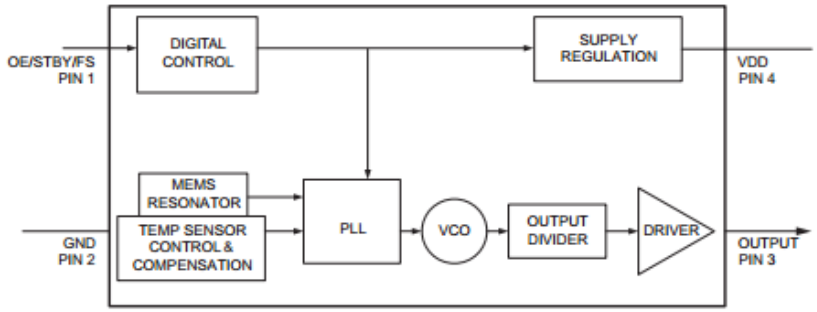
Online Datasheet

Product Tree

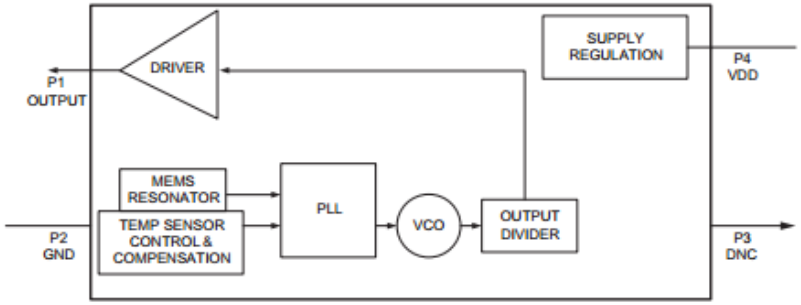
Features:

- Wide Frequency Range:
  - DSC60xx - 2 KHz to 80 MHz
  - DSC61xx - 2 KHz to 100 MHz
- Ultra–Low Power Consumption: 1.3 mA/12 µA (Active/Standby)
- Ultra-Small Footprints
  - 1.6 mm x 1.2 mm
  - 2.0 mm x 1.6 mm
  - 2.5 mm x 2.0 mm
  - 3.2 mm x 2.5 mm
- Frequency Select Input Supports 2 Predefined Frequencies
- High Stability: ±25, ±50 ppm
- Wide Temperature Range
  - Industrial: –40°C to 85°C
  - Ext. Commercial: –20° to 70°C
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x Better MTF Than Quartz Oscillators
- Supply Range of 1.71V to 3.63V
- Short Sample Lead Time: <2 weeks
- Lead Free & RoHS Compliant

DSC6001/03/11/13/21/23/41/43/51/53/61/63



DSC6083 (kHz Output)



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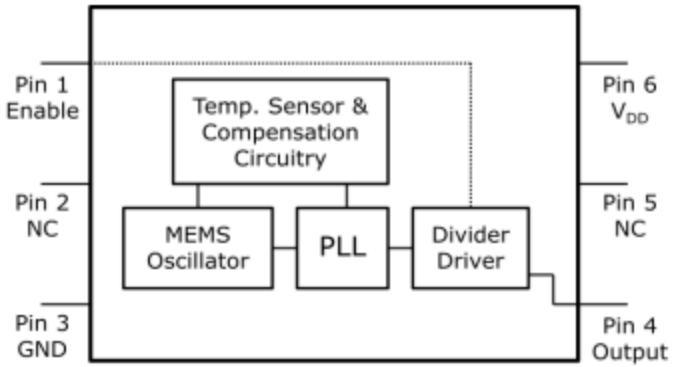
DSC1101/1121

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: <1 ps (typ.)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range
  - Automotive: -55°C to 125°C
  - Ext. Industrial: -40°C to 105°C
  - Industrial: -40°C to 85°C
  - Ext. commercial: -20°C to 70°C
- High Supply Noise Rejection: -50dBc
- Short Lead Time: 2 Weeks
- Wide Freq. Range: 2.3 to 170MHz
- Small Industry Standard Footprints
  - 2.5mm x 2.0mm, 3.2mm x 2.5mm, 5.0mm x 3.2mm, & 7.0mm x 5.0mm
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than quartz oscillators
- Low Current Consumption
- Supply Range of 2.25V to 3.6V
- Standby & Output Enable Function
- Lead Free & RoHS Compliant



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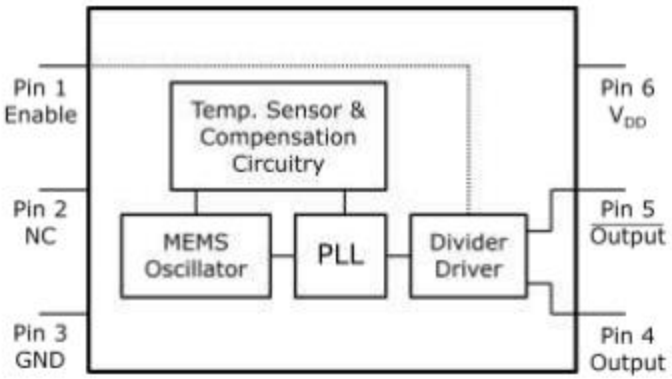
DSC1102/1122

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: <1 ps (typ.)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range
  - Industrial: -40°C to 85°C
  - Ext. commercial: -20°C to 70°C
- High Supply Noise Rejection: -50dBc
- Short Lead Time: 2 Weeks
- Wide Freq. Range: 2.3 to 460MHz
- Small Industry Standard Footprints
  - 2.5mm x 2.0mm, 3.2mm x 2.5mm, 5.0mm x 3.2mm, & 7.0mm x 5.0mm
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than quartz oscillators
- Low Current Consumption
- Supply Range of 2.25V to 3.6V
- Standby & Output Enable Function
- Lead Free & RoHS Compliant
- LVDS & HCSL Versions Available



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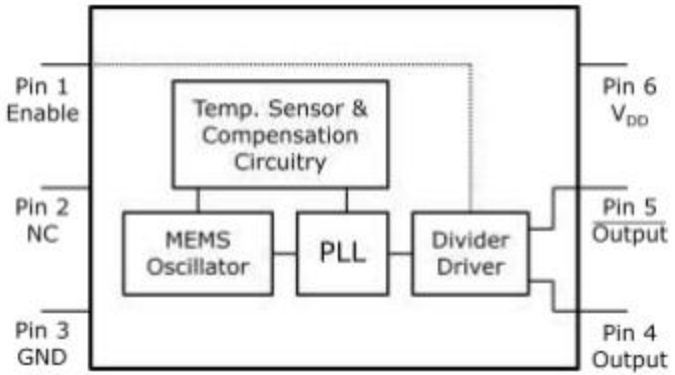
DSC1103/1123

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: <1 ps (typ.)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range
  - Industrial: -40°C to 85°C
  - Ext. commercial: -20°C to 70°C
- High Supply Noise Rejection: -50dBc
- Short Lead Time: 2 Weeks
- Wide Freq. Range: 2.3 to 460MHz
- Small Industry Standard Footprints
  - 2.5mm x 2.0mm, 3.2mm x 2.5mm, 5.0mm x 3.2mm, & 7.0mm x 5.0mm
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than quartz oscillators
- Low Current Consumption
- Supply Range of 2.25V to 3.6V
- Standby & Output Enable Function
- Lead Free & RoHS Compliant
- LVPECL & HCSL Versions Available



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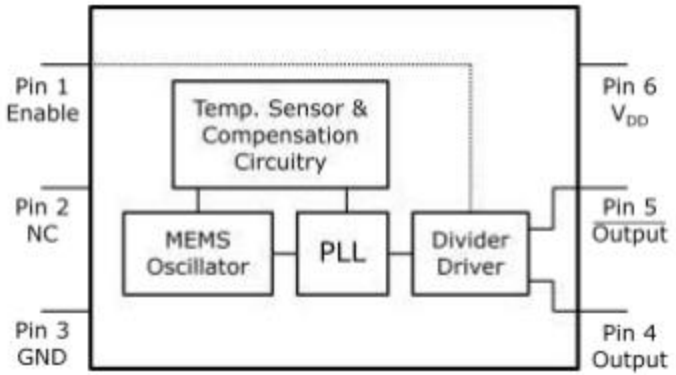
DSC1104/1124

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: <1 ps (typ.)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range
  - Industrial: -40°C to 85°C
  - Ext. commercial: -20°C to 70°C
- High Supply Noise Rejection: -50dBc
- Short Lead Time: 2 Weeks
- Wide Freq. Range: 2.3 to 460MHz
- Small Industry Standard Footprints
  - 2.5mm x 2.0mm, 3.2mm x 2.5mm, 5.0mm x 3.2mm, & 7.0mm x 5.0mm
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than quartz oscillators
- Low Current Consumption
- Supply Range of 2.25V to 3.6V
- Standby & Output Enable Function
- Lead Free & RoHS Compliant
- LVDS & LVPECL Versions Available



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MX55/57

Online Datasheet

Product Tree

Features:

- Typical phase jitter ranging from 160fs to 230fs
- Supports 1 output
- Integrated crystal
- Output up to 850MHz
- Programmable output buffers
- O/E Pin selectable
- Industry standard package
  - MX55 - 3.2mm x 5mm
  - MX57 - 5mm x 7mm

Part Number	Output Frequency (MHz)	Output Format	Frequency Stability (ppm)	Jitter (typ) (ps RMS)	Supply current (mA)	Supply voltage (V)	Temp. Range (°C)	Package size (mmxmm)	Custom Configuration
MX57	<840	LVCMOS LVPECL LVDS HSCL	±50	0.2	70	2.25 to 3.63	-20 to 70 -40 to 85	7.0x5.0 6L	ClockWorks Web tool
MX55	<840							5.0x3.2 6L	
MX85	<840			0.2	90			7.0x5.0 38-PIN LGA	

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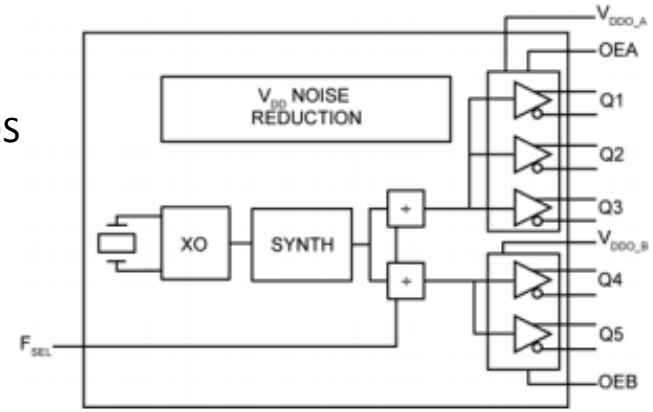
MX85

Online Datasheet

Product Tree

Features:

- 200fs RMS Phase Jitter of Fanout
- Supports 5 outputs and 2 distinct frequencies up to 840MHz
- Independently configurable output buffers: LVDS, LVPECL, HCSL, CMOS
- Complete clocking solution integrates the crystal, synthesizer, and fanout
- OTP configurable, customized samples within days
- FSEL enables in-circuit frequency selection
- 3.3V or 2.5V operation
- -40°C to +85°C ambient temperature range



Part Number	Output Frequency (MHz)	Output Format	Frequency Stability (ppm)	Jitter (typ) (ps RMS)	Supply current (mA)	Supply voltage (V)	Temp. Range (°C)	Package size (mmxmm)	Custom Configuration
MX57	<840	LVCMOS LVPECL LVDS HSCL	±50	0.2	70	2.25 to 3.63	-20 to 70 -40 to 85	7.0x5.0 6L	ClockWorks Web tool
MX55	<840							5.0x3.2 6L	
MX85	<840			0.2	90			7.0x5.0 38-PIN LGA	

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MXT57

Online Datasheet

Product Tree

Features

Supports 1 LVCMOS/LVPECL/LVDS/HSCL output

Typical phase jitter: 0.2ps

Guaranteed ±2.5ppm over -40°C to +85°C

±5ppm total frequency stability

- Integrated crystal
- Output up to 850MHz
- Programmable output buffers
- O/E Pin selectable

Industry standard 6-Pin 7mm x 5mm LGA package

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Product Tree

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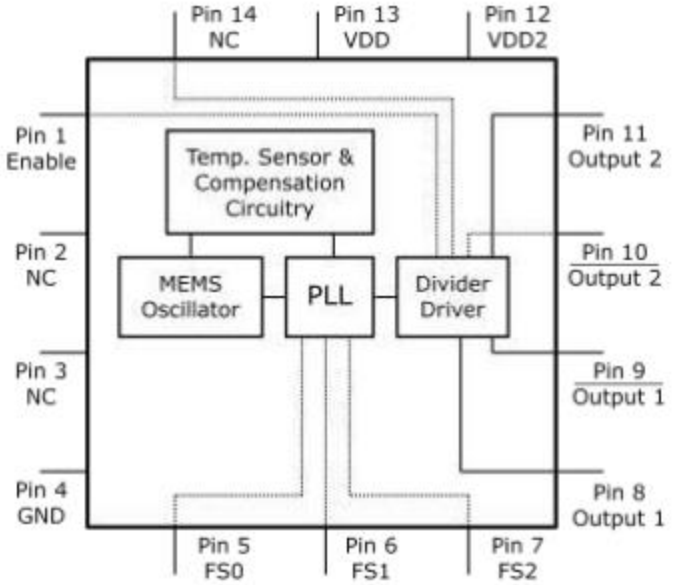
DSC2XXX

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: 1.5 ps (typ.)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range: -20°C to 105°C
- High Supply Noise Rejection: -50dBc
- Two configurable independent outputs:
  - LVCMOS, LVPECL, LVDS, HCSL
- Pin-Selectable Configurations:
  - 3-bit Output Frequency Combinations
- Short Lead Times: 2 Weeks
- Wide Freq. Range: 2.3 to 460MHz
- Miniature Footprint of 3.2mm x 2.5mm
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than quartz oscillators
- Lead Free and RoHS Compliant
- Supply Range of 2.25V to 3.6V
- DSC20XX supports pin control
- DSC21xx supports I²C interface
- DSC22XX supports SPI interface



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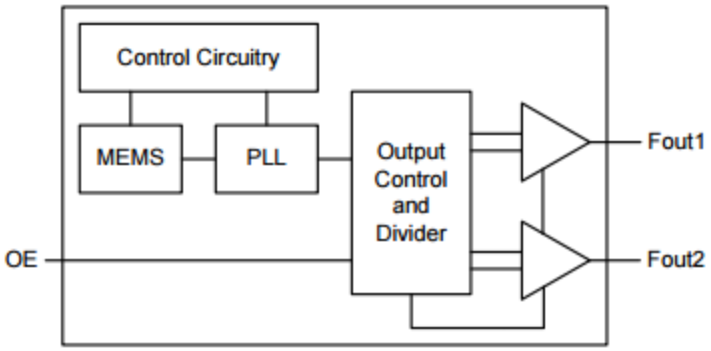
DSC2311

Online Datasheet

Product Tree

- Two Simultaneous CMOS Outputs
  - Output 1 Range: 2.3 to 170MHz
  - Output 2 Range: 2.3 to 170MHz
- Low RMS Phase Jitter: <1 ps (typ.)
- High Stability: ±25 ppm; ±50 ppm
- Wide Temperature Range
  - Automotive: -55°C to 125°C
  - Ext. Industrial: -40°C to 105°C
  - Industrial: -40°C to 85°C
  - Ext. Commercial: -20°C to 70°C
- High Supply Noise Rejection: -50dBc
- High Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than crystal-based clock generator designs
- Lead Free and RoHS Compliant
- Supply Range of 2.25V to 3.6V
- Short Lead Times: 2 Weeks



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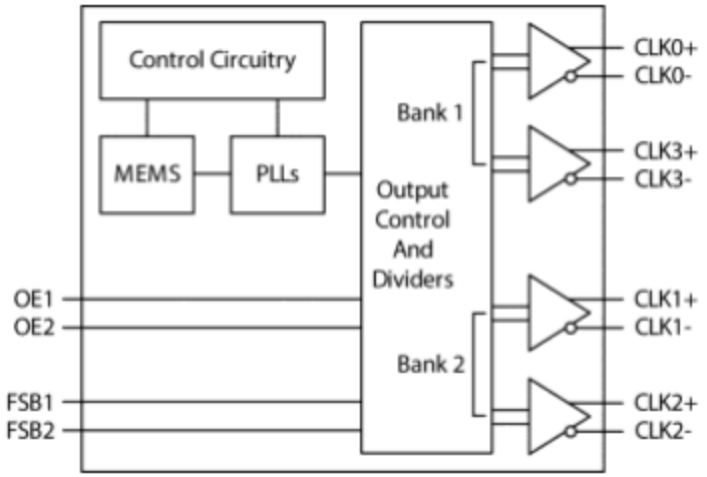
DSC400

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: <1ps (typ.)
- High Stability: ±25ppm, ±50ppm
- Wide Temperature Range:
- Ext. commercial: -20°C to +70°C
- Industrial: -40°C to +85°C
- High Supply Noise Rejection: -50dBc
- Wide frequency range: 2.3MHz to 460MHz
- 20-pin QFN footprint (5.0mm x 3.2mm)
- Excellent shock and vibration immunity:
- Qualified to MIL-STD-883
- Four format-configurable outputs: LVPECL, LVDS, HCSL, LVCMOS
- Available pin-selectable frequency table: 1 pin per bank for two frequency sets
- High Reliability: 20x better MTF than quartz-based devices
- Wide supply range of 2.25V to 3.6V
- Lead free & RoHS-compliant
- AEC-Q100 Automotive qualified



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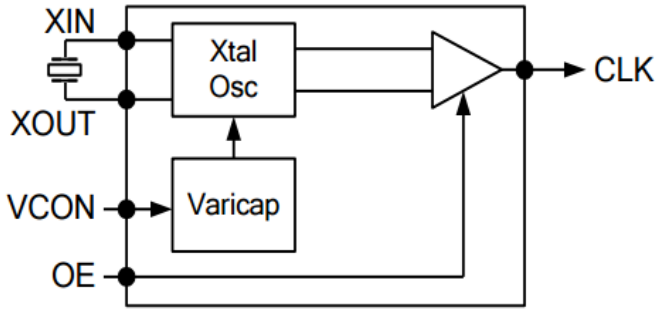
PL500-17

Online Datasheet

Product Tree

Features:

- VCXO output for the 17MHz to 36MHz range
- Low phase noise (-130dBc @ 10kHz offset at 35.328MHz)
- LVCMOS output with OE tri-state control
- 17 to 36MHz fundamental crystal input
- Integrated high linearity variable capacitors
- 8mA drive capability at TTL output
- ±150 ppm pull range, max 5% (typ.) linearity
- Low jitter (RMS): 2.5ps period jitter
- 2.5V to 3.3V operation
- Available in 8-Pin SOP, 6-pin SOT23 GREEN/ RoHS compliant packages, or Die



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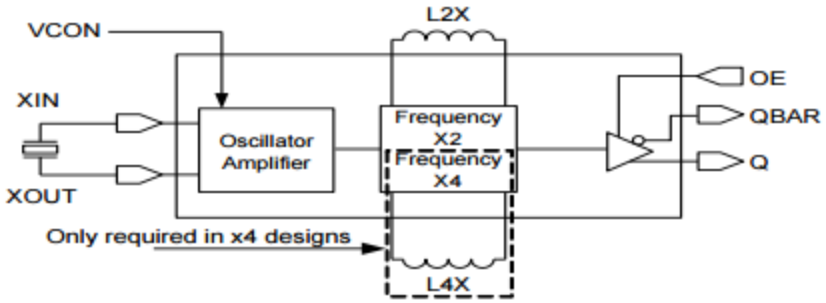
PL560-47

Online Datasheet

Product Tree

Features:

- Non-PLL frequency multiplication
- Input frequency from 30-200MHz
- Output frequency from 60-800MHz
- Ultra-low jitter
  - RMS phase jitter <0.25ps (12kHz-20MHz)
  - RMS random period jitter <25ps
- Low phase noise
  - -142 dBc/Hz @100kHz offset from 155.52MHz
  - -150 dBc/Hz @10MHz offset from 155.52MHz
- High linearity pull range (typ. 5%)
- Low phase noise and jitter (equivalent to fundamental crystal at the output frequency)
- ±120 PPM pullability VCXO
- Low input frequency eliminates the need for expensive crystals
- Differential output levels (PECL, LVDS), or single-ended CMOS
- Single 3.3V, ±10% power supply
- Optional industrial temperature range (-40°C to +85°C)
- Available in 16-pin Green/RoHS compliant TSSOP, and 3x3 QFN packages



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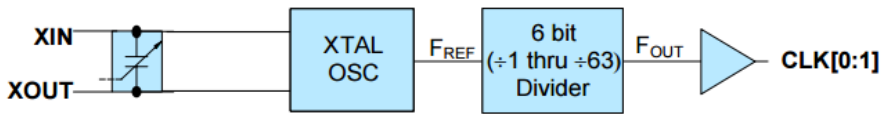
PL610-01

Online Datasheet

Product Tree

Features:

- Wide frequency coverage, programmable, advanced oscillator design
- Programmable “Odd/Even” Divider up to ÷63
- Direct oscillation operation with optional programmable features:
  - Output Drive Strength (4, 8, or 16mA)
  - 6-bit Odd/Even Output Divider
- Input Frequency:
  - Fundamental Crystal: 5MHz to 130MHz
  - Reference Clock: 1MHz to 130MHz
- Supports CMOS or Sine Wave input clock
- Output Frequency: 20kHz to 130MHz
- Very low Jitter and Phase Noise
- Low current consumption
- Single 1.8V - 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Available in 6-pin DFN or SOT23 GREEN/RoHS compliant packaging



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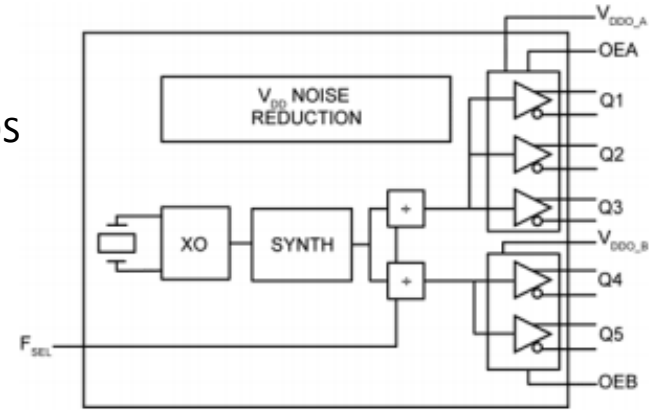
MX85

Online Datasheet

Product Tree

Features:

- 200fs RMS Phase Jitter of Fanout
- Supports 5 outputs and 2 distinct frequencies up to 840MHz
- Independently configurable output buffers: LVDS, LVPECL, HCSL, CMOS
- Complete clocking solution integrates the crystal, synthesizer, and fanout
- OTP configurable, customized samples within days
- FSEL enables in-circuit frequency selection
- 3.3V or 2.5V operation
- -40°C to +85°C ambient temperature range



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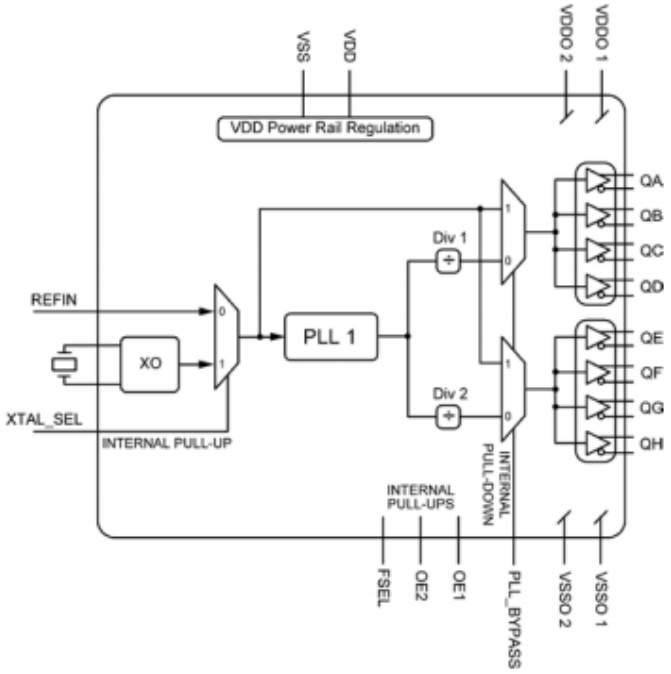
SM802XXX

Online Datasheet

Product Tree

Features:

- 115fs at 156.25MHz (1.875MHz to 20MHz)
- 245fs at 156.25MHz (12kHz to 20MHz)
- On chip power supply regulation for excellent board level power supply noise immunity
- Generates up to 8 combinations of differential or 16 single-ended clock outputs.
  - LVPECL, LVDS, HCSL, LVCMOS (SE or Diff)
- Selectable input:
- Crystal: 11MHz to 30MHz
- Reference input: 11MHz to 80MHz
- No external crystal oscillator capacitors required
- 2.5V or 3.3V operating power supply
- Available in Industrial Temperature range
- Available in Green, RoHS, and PFOS compliant QFN packages:
  - 44-pin 7mm x 7mm
  - 32-pin 5mm x 5mm
  - 24-pin 4mm x 4mm
  - 16-pin 3mm x 3.5mm



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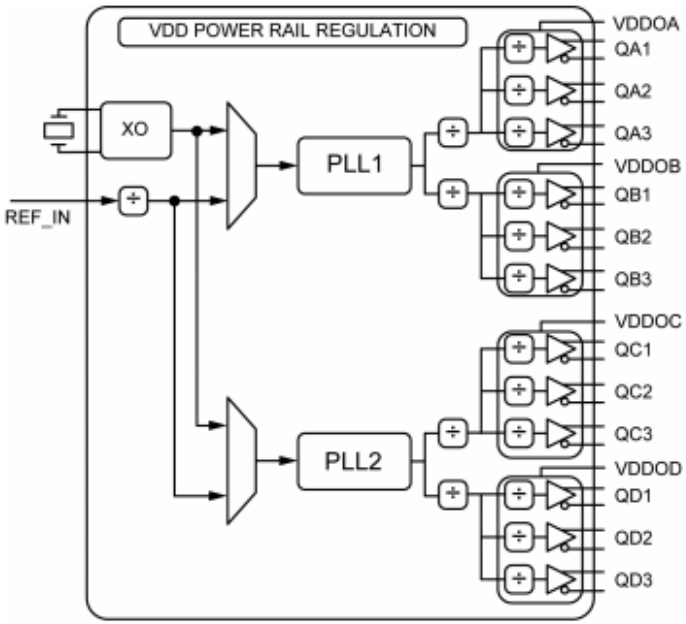
SM803020

Online Datasheet

Product Tree

Features:

- Generates twelve 156.25 MHz outputs
- Independently programmable output logic:
  - Output logic: LVPECL (default), LVDS, HCSL, LVCMOS
- 74.2fs jitter at 156.25 MHz (1.875Mhz to 20 MHz)
- Selectable inputs require 39.0625 MHz input frequency
  - XTAL (default)
  - Differential or single ended reference clock (SPI selectable)
- 2.5 V or 3.3V operating power supply
- Separate output power supplies:
  - Different banks can be at a different levels
- Industrial temperature range (-40to +85C)
- Green, RoHS, and PFOS complaint
- Available in 84 pin 7mm x 7mm QFN package



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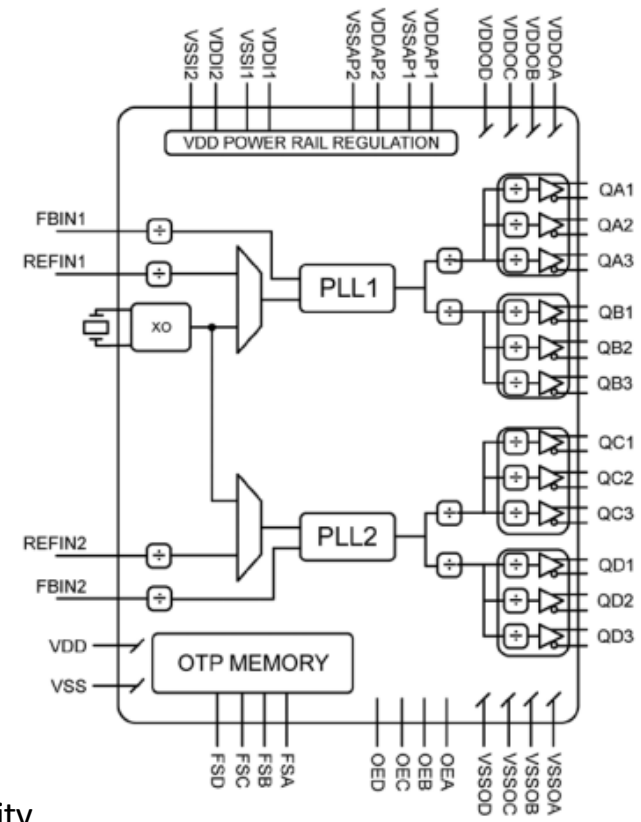
SM803XXX

Online Datasheet

Product Tree

Features:

- Generates up to 12 differential or single-ended frequencies
  - 75fs phase jitter @ 156.25MHz (1.875MHz to 20MHz)
  - 180fs phase jitter @ 156.25MHz (12KHz to 20MHz)
- 2 high performance PLL synthesizers to generate multiple frequencies
- Independently programmable output logic and frequency
- Output logic: LVPECL, LVDS, HCSL, LVCMOS
- Selectable input
  - Crystal: 12MHz to 50MHz
  - Reference Input: 12MHz to 850MHz
- No external crystal oscillator capacitors required
- 3.3V or 2.5V operating power supply
- Separate output power supplies
  - Each bank can be at different levels (4 banks of 3 outputs each)
- Feedback input pins for use as zero delay buffer
- On chip power supply regulation for excellent power supply noise immunity
- Supports Commercial or Industrial temperature ranges
- Green, RoHS, and PFOS compliant
- Available in 84-pin 7mm × 7mm QFN package



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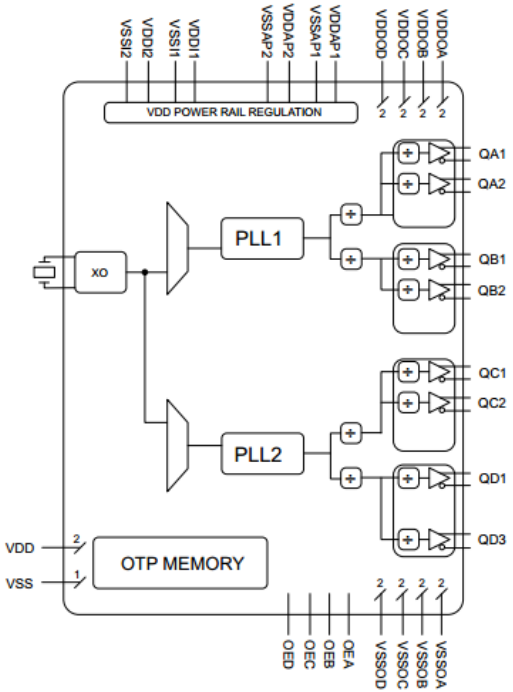
SM813XXX

Online Datasheet

Product Tree

Features:

- Generates up to 18 differential or single-ended frequencies
  - <65fs phase jitter @ 156.25MHz (1.875MHz to 20MHz)
  - <115fs phase jitter @ 156.25MHz (12KHz to 20MHz)
- 2 high performance PLL synthesizers to generate multiple frequencies
- Independently programmable output logic and frequency
- Output logic: LVPECL, LVDS, HCSL, LVCMOS
- Selectable input
  - Crystal: 31.25MHz to 156.25MHz
- No external crystal oscillator capacitors required
- 3.3V or 2.5V operating power supply
- Separate output power supplies
  - Each bank can be at different levels (4 banks of 2 outputs each)
- On chip power supply regulation for excellent power supply noise immunity
- Supports Commercial or Industrial temperature ranges
- Green, RoHS, and PFOS compliant
- Available in 48-pin 7mm × 7mm QFN package



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SM84XXXX

Online Datasheet

Product Tree

Features:

- Up to 6 outputs
- Output types: CMOS, PECL, LVDS
- 2.5V or 3.3V operating range
- Typical phase jitter @ 156.25MHz
  - Down to 80fs (typical) @ 3.3V
- Pre-configured output frequencies
- Industrial temperature range
- Package Options
  - TSSOP: 8/16/20/24
  - TQFP: 8

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PL602-38

Online Datasheet

Product Tree

Features:

- Selectable 750kHz to 800MHz range
- Low phase noise output
  - -127dBc/Hz for 155.52MHz @ 10kHz offset
  - -115dBc/Hz for 622.08MHz @ 10kHz offset
- LVCMOS (PL602-37), LVPECL (PL602-35 and PL602-38) or LVDS (PL602-39) output
- 12MHz to 25MHz crystal input
- No external load capacitor or varicap required
- Output Enable selector
- Selectable /16 to x32 frequency divider/multiplier
- 3.3V operation
- Available in 16-Pin TSSOP or 16-pin 3mm x 3mm QFN GREEN/RoHS compliant packages

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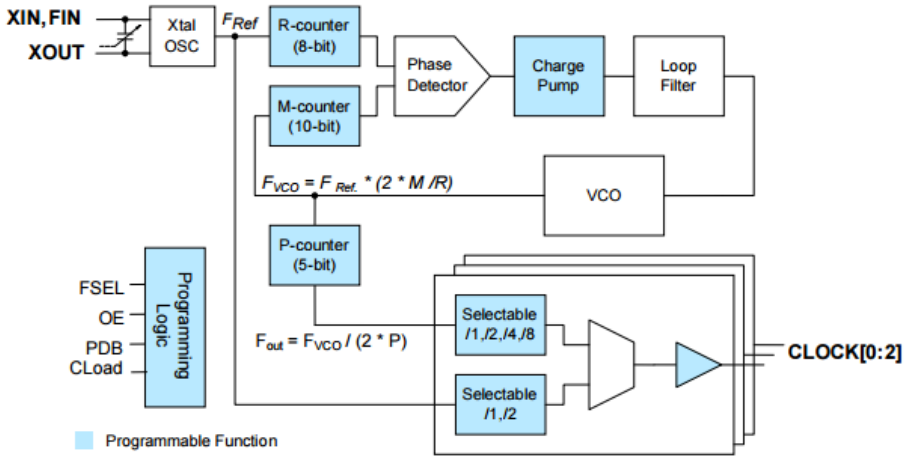
PL611-01

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL design
- Very low Jitter and Phase Noise (30-70ps Pk-Pk typical)
- Up to 3 programmable outputs
- Output frequency up to 200MHz CMOS
- Accepts Crystal or reference clock inputs:
  - Fundamental crystal: 10MHz-30MHz
  - 3RD overtone crystal: Up to 75MHz
  - Reference input: Up to 200MHz
- Accepts <1.0V reference signal input voltage
- One programmable I/O pin can be configured as Programmable clock or Frequency Selection input, or output Enable (OE) or Power Down (PDB) input
- Supply operating range 2.25V to 3.63V
- Operating temperature range from -40°C to +85°C
- Available in 8-pin MSOP/SOP, and 6-pin SOT Green/RoHS compliant Packages



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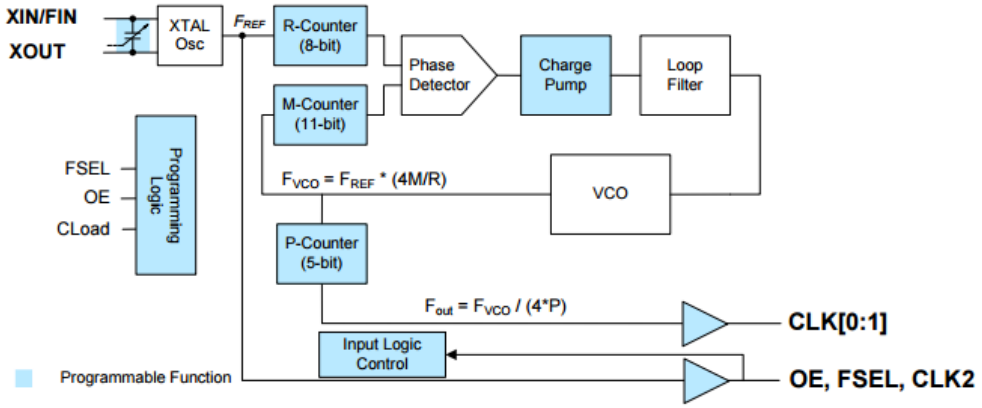
PL611-30

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL design
- Very low Jitter and Phase Noise (<40ps Pk-Pk typ)
- Supports complementary LVCMOS outputs to drive LVPECL and LVDS inputs
- Output Frequencies:
  - ≤400MHz at 3.3V
  - ≤350MHz at 2.5V
- Input Frequencies:
  - Fundamental crystal: 10MHz-30MHz
  - 3RD overtone crystal: Up to 75MHz
  - Reference Input: Up to 200MHz
- Accepts <1.0V reference signal input voltage
- One programmable I/O pin can be configured as Output Enable (OE) input, Frequency Selection (FSEL) input or Reference Clock (CLK2) output
- Single 2.5V or 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Available in 8-pin MSOP/SOP, and 6-pin SOT Green/RoHS compliant Packages



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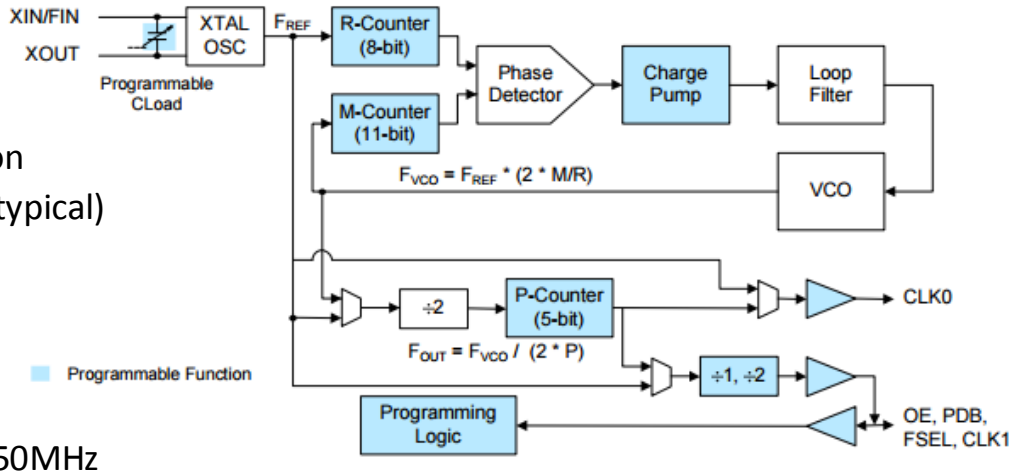
PL611s-02

Online Datasheet

Product Tree

Features:

- Advanced One Time Programmable PLL design
- Programmable PLL or Direct Oscillation operation
- Very low Jitter and Phase Noise (30-70ps Pk-Pk typical)
- Output frequency range:
  - ≤110MHz @ 1.8V operation
  - ≤166MHz @ 2.5V operation
  - ≤200MHz @ 3.3V operation
- Input Frequency: Fundamental crystal: 10MHz-50MHz
- 8-bit Switch Capacitor for ±50ppm crystal CL tuning
- Low current consumption, <10µA when PDB is activated
- One programmable I/O pin can be configured as Output Enable (OE) or Power Down (PDB) input
- Single 1.8V, 2.5V, or 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Wire bond (-02) or Flip-Chip (-03) pad layout



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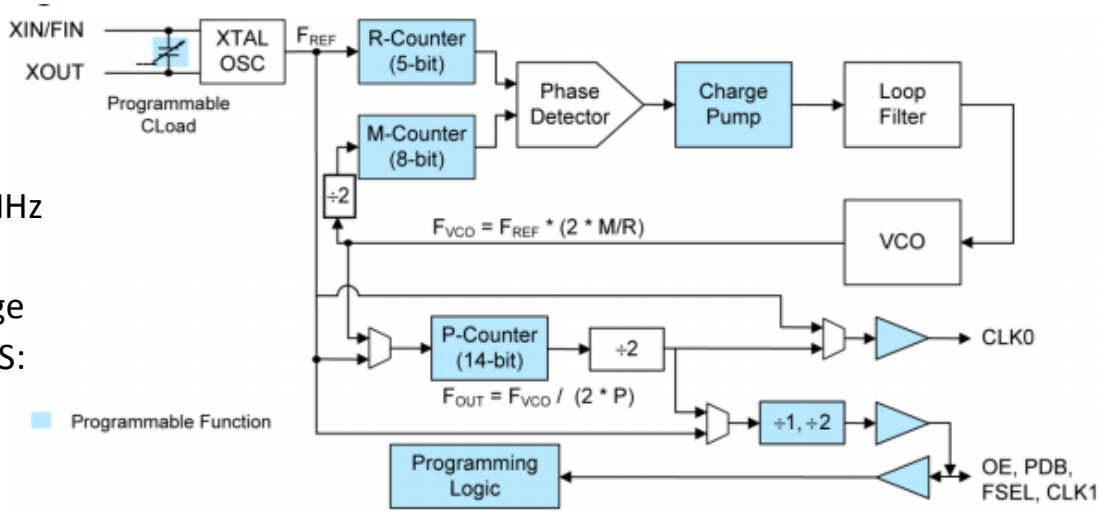
PL611s-18

Online Datasheet

Product Tree

Features:

- Designed for very low power applications
- Accepts crystal or reference clock inputs
- Input frequency:
  - Fundamental crystal: 10MHz to 50MHz
  - Reference input: 1MHz to 125MHz
- Accepts >0.1V reference signal input voltage
- Output frequency 0.5kHz to 125MHz CMOS:
  - 65MHz @ 1.8V operation
  - 90MHz @ 2.5V operation
  - 125MHz @ 3.3V operation
- One programmable I/O pin can be configured as OE, PDB, FSEL, or CLK1
- Low current consumption:
  - <1.0mA with 27MHz & 32kHz outputs
  - <5µA when PDB is activated
- Single 1.8V - 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Available in 6-pin DFN, and SOT23 GREEN/RoHS compliant packages



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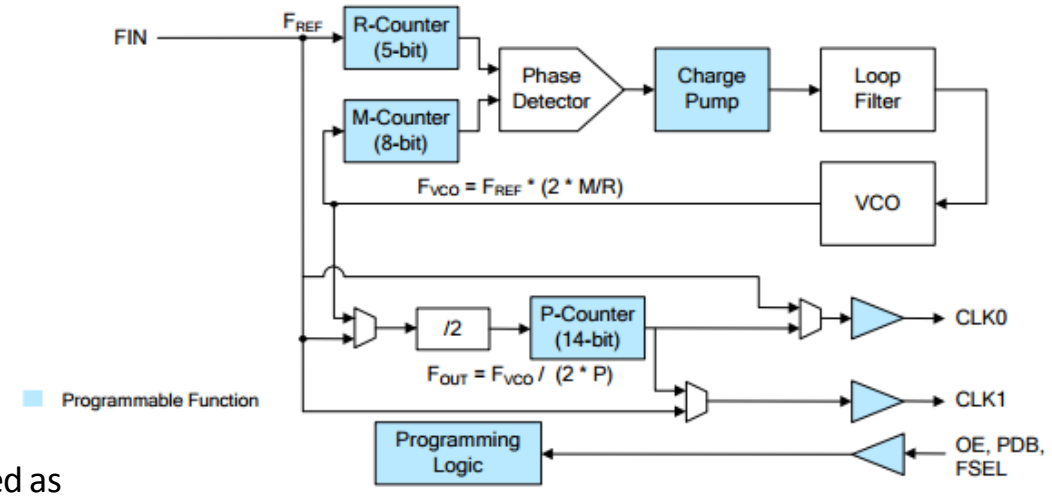
PL611s-19

Online Datasheet

Product Tree

Features:

- Designed for Very Low-Power applications
- Input Frequency, AC Coupled:
  - Reference input: 1MHz to 125MHz
  - Accepts >0.1V input signal voltage
- Output frequency up to 125MHz LVCMOS:
  - ≤65MHz @ 1.8V operation
  - ≤90MHz @ 2.5V operation
  - ≤125MHz @ 3.3V operation
- One programmable input pin can be configured as Power Down (PDB) input, output Enable (OE), or Frequency Selection Switching input
- Disabled outputs Active Low
- Low current consumption:
  - <1.0mA with 27MHz & 32kHz outputs
  - <5µA when PDB is activated
- Single 1.8V - 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Available in 6-pin DFN, and SOT23 GREEN/RoHS compliant packages



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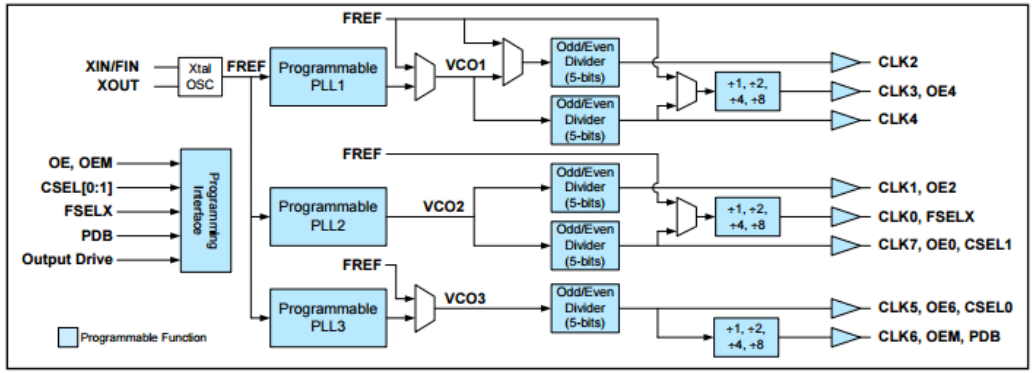
PL613-01

Online Datasheet

Product Tree

Features:

- Designed for PCB space savings with 3 low-power Programmable PLLs and up to 8 clock outputs
- Low-Power Consumption
  - 10µA typical when PDB is activated
- Output Frequency:
  - ≤110MHz @ 1.8V operation
  - ≤166MHz @ 2.5V operation
  - ≤200MHz @ 3.3V operation
- Input Frequency:
  - Fundamental Crystal: 10MHz to 40MHz
  - Reference Input: 10MHz to 200MHz



- Programmable I/O pins can be configured as Output Enable (OE), Configuration Switching (CSEL), Frequency Switching (FSELX), Power Down (PDB) inputs, or Clock outputs
- Disabled outputs programmable as HiZ or Active Low
- Four distinct configurations selectable with CSEL[0:1]
- Single 1.8V, 2.5V or 3.3V ±10% power supply
- Temperature range: 0°C to +70°C, -40°C to +85°C
- Available in GREEN/RoHS compliant 3mm x 3mm QFN or TSSOP packages

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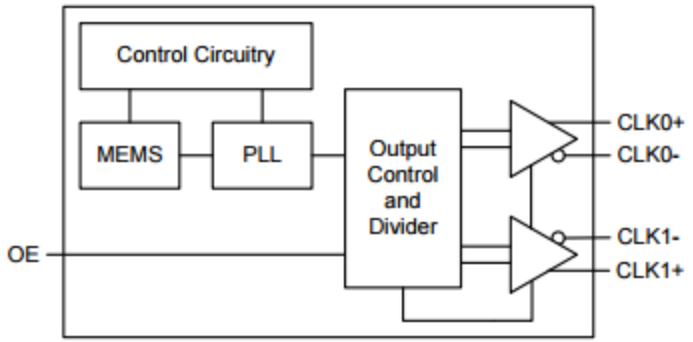
DSC557-03

Online Datasheet

Product Tree

Features:

- Meets PCIe Gen1, Gen2 & Gen3 specs.
- Available Output Formats:
  - HCSL, LVPECL, or LVDS
  - HCSL/LVPECL, HCSL/LVDS, LVPECL/LVDS
- Wide Temperature Range
  - Ext. Industrial: -40°C to 105°C
  - Industrial: -40°C to 85°C
  - Ext. Commercial: -20°C to 70°C
- Short lead time: 2 weeks
- Available in 16-Pin TSSOP or 14-Pin QFN packages
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- Low Power Consumption
  - 30% lower than competing devices
- Supply Range of 2.25V to 3.6V
- Lead Free & RoHS Compliant



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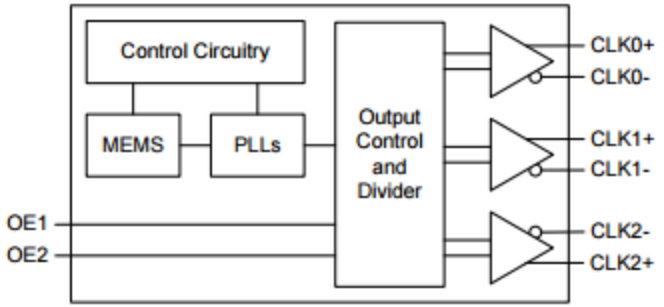
DSC557-04

Online Datasheet

Product Tree

Features:

- Meets PCIe Gen1, Gen2 & Gen3 specs.
- Available Output Formats:
  - HCSL, LVPECL, or LVDS
  - Mixed Outputs: LVPECL/HCSL/LVDS
- Wide Temperature Range
  - Ext. Industrial: -40°C to 105°C
  - Industrial: -40°C to 85°C
  - Ext. Commercial: -20°C to 70°C
- Short lead time: 2 weeks
- Available in 20-Pin QFN package
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- Low Power Consumption
  - 30% lower than competing devices
- Supply Range of 2.25V to 3.6V
- Lead Free & RoHS Compliant



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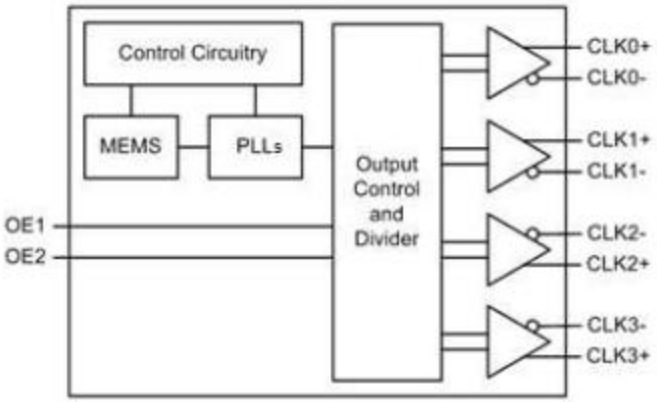
DSC557-05

Online Datasheet

Product Tree

Features:

- Meets PCIe Gen1, Gen2 & Gen3 specs.
- Available Output Formats:
  - HCSL, LVPECL, or LVDS
  - Mixed Outputs: LVPECL/HCSL/LVDS
- Wide Temperature Range
  - Ext. Industrial: -40°C to 105°C
  - Industrial: -40°C to 85°C
  - Ext. Commercial: -20°C to 70°C
- Short lead time: 2 weeks
- Available in 20-Pin QFN package
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- Low Power Consumption
  - 30% lower than competing devices
- Supply Range of 2.25V to 3.6V
- Lead Free & RoHS Compliant



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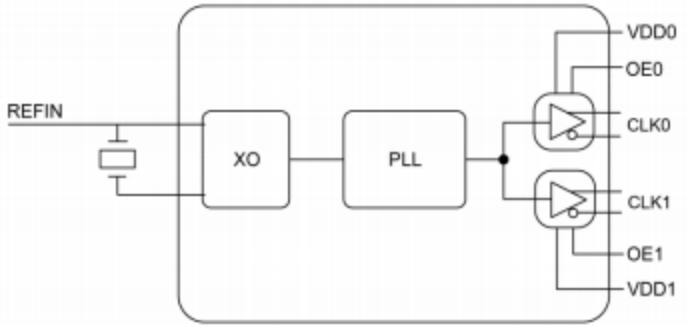
PL602031

Online Datasheet

Product Tree

Features:

- Input frequency: Fundamental crystal or reference input - 25MHz
- Output frequency:
  - PL602031: 2 x 25MHz differential outputs
  - PL602032: 2 x 100MHz differential outputs
  - PL602033: 2 x 125MHz differential outputs
  - PL602034: 2 x 200MHz differential outputs
- Very low jitter: 28ps peak-to-peak typical
- Very low phase noise: -130dBc at 10kHz offset at 100MHz
- Compliant with PCI-Express Gen1 and Gen2
- Operating temperature range of -40°C to +85°C
- Power supply range: 2.25V to 3.63V
- Available in 16-pin QFN, RoHS and PFOS compliant package



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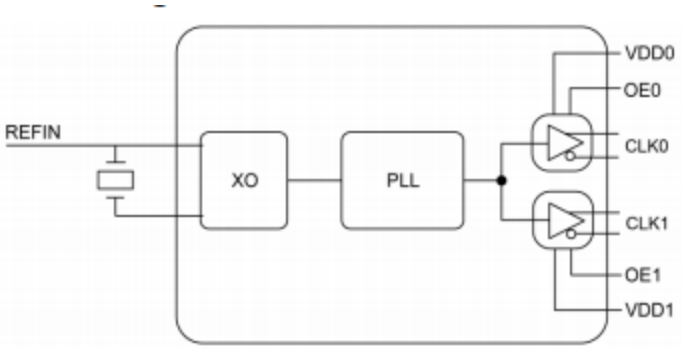
PL602032

Online Datasheet

Product Tree

Features:

- Input frequency: Fundamental crystal or reference input - 25MHz
- Output frequency:
  - PL602031: 2 x 25MHz differential outputs
  - PL602032: 2 x 100MHz differential outputs
  - PL602033: 2 x 125MHz differential outputs
  - PL602034: 2 x 200MHz differential outputs
- Very low jitter: 28ps peak-to-peak typical
- Very low phase noise: -130dBc at 10kHz offset at 100MHz
- Compliant with PCI-Express Gen1 and Gen2
- Operating temperature range of -40°C to +85°C
- Power supply range: 2.25V to 3.63V
- Available in 16-pin QFN, RoHS and PFOS compliant package



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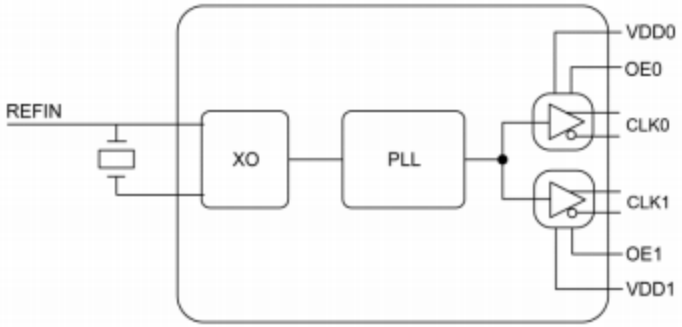
PL602033

Online Datasheet

Product Tree

Features:

- Input frequency: Fundamental crystal or reference input - 25MHz
- Output frequency:
  - PL602031: 2 x 25MHz differential outputs
  - PL602032: 2 x 100MHz differential outputs
  - PL602033: 2 x 125MHz differential outputs
  - PL602034: 2 x 200MHz differential outputs
- Very low jitter: 28ps peak-to-peak typical
- Very low phase noise: -130dBc at 10kHz offset at 100MHz
- Compliant with PCI-Express Gen1 and Gen2
- Operating temperature range of -40°C to +85°C
- Power supply range: 2.25V to 3.63V
- Available in 16-pin QFN, RoHS and PFOS compliant package



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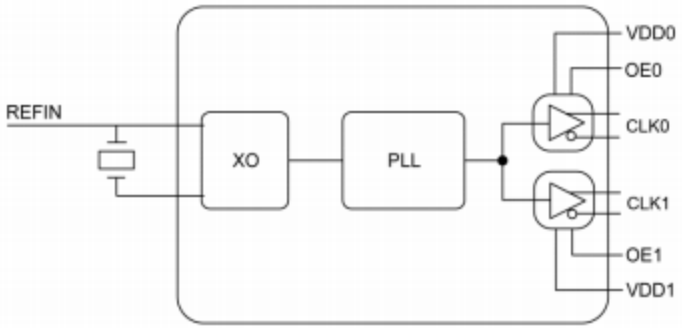
PL602034

Online Datasheet

Product Tree

Features:

- Input frequency: Fundamental crystal or reference input - 25MHz
- Output frequency:
  - PL602031: 2 x 25MHz differential outputs
  - PL602032: 2 x 100MHz differential outputs
  - PL602033: 2 x 125MHz differential outputs
  - PL602034: 2 x 200MHz differential outputs
- Very low jitter: 28ps peak-to-peak typical
- Very low phase noise: -130dBc at 10kHz offset at 100MHz
- Compliant with PCI-Express Gen1 and Gen2
- Operating temperature range of -40°C to +85°C
- Power supply range: 2.25V to 3.63V
- Available in 16-pin QFN, RoHS and PFOS compliant package



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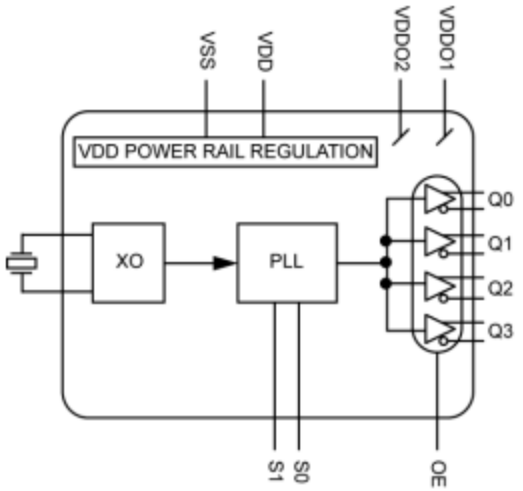
PL602041

Online Datasheet

Product Tree

Features:

- Input crystal frequency of 25MHz
- Generates four HCSL clock outputs at 25MHz, 100MHz, 125MHz, and 200MHz
- 2.5V or 3.3V operating range
- Typical phase jitter @ 100MHz (1.875MHz to 20MHz): 105fs
- Compliant with PCI Express Gen1, Gen2, and Gen 3
- Industrial temperature range of -40°C to +85°C
- RoHS and PFOS compliant
- Available in 24-pin 4mm x 4mm QFN package



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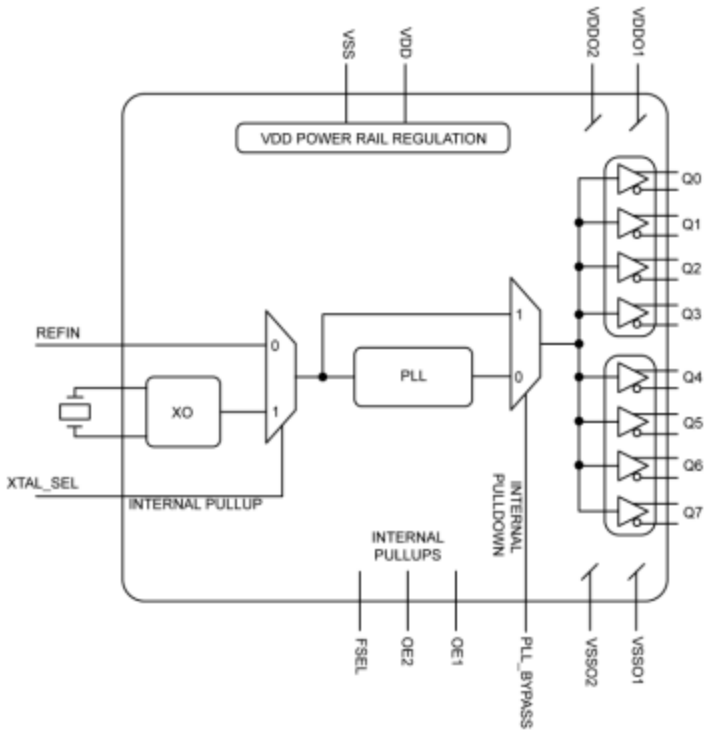
PL602081

Online Datasheet

Product Tree

Features:

- Generates eight HCSL clock outputs
- PL602081 output frequencies: 25MHz, 100MHz, or 200MHz
- PL602082 output frequencies: 25MHz, 125MHz, or 250MHz
- 2.5V or 3.3V operating range
- Typical phase jitter: 250fs for 12kHz to 20MHz
- Industrial temperature range of -40°C to +85°C
- RoHS and PFOS compliant
- Available in 44-pin 7mm x 7mm QFN package



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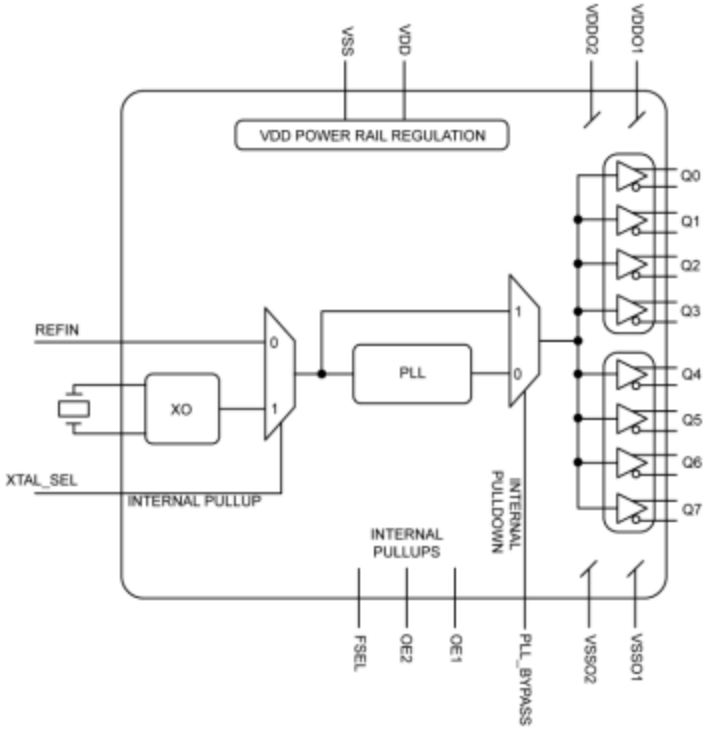
PL602082

Online Datasheet

Product Tree

Features:

- Generates eight HCSL clock outputs
- PL602081 output frequencies: 25MHz, 100MHz, or 200MHz
- PL602082 output frequencies: 25MHz, 125MHz, or 250MHz
- 2.5V or 3.3V operating range
- Typical phase jitter: 250fs for 12kHz to 20MHz
- Industrial temperature range of -40°C to +85°C
- RoHS and PFOS compliant
- Available in 44-pin 7mm x 7mm QFN package



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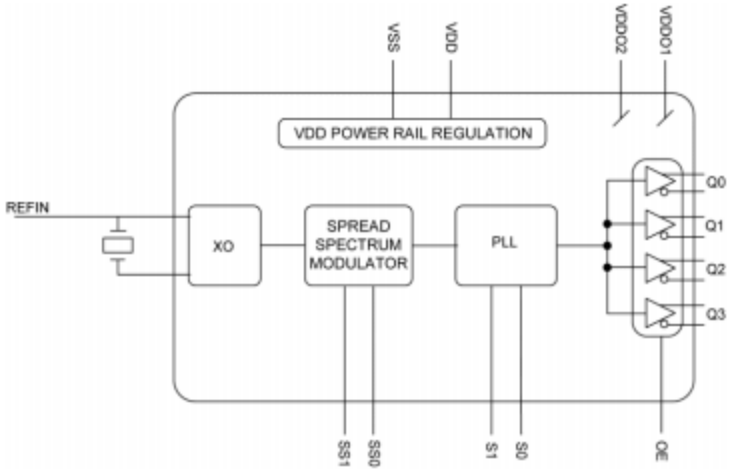
PL607041

Online Datasheet

Product Tree

Features:

- 25MHz fundamental crystal or reference input
- Generates four HCSL clock outputs at 25MHz, 100MHz, 125MHz, and 200MHz
- Spread spectrum for EMI reduction
- 2.5V or 3.3V operating range
- Typical phase jitter @ 100MHz (1.5MHz to 10MHz): 320fs
- Industrial temperature range of -40°C to +85°C
- RoHS and PFOS compliant
- Available in 24-pin 4mm x 4mm QFN package



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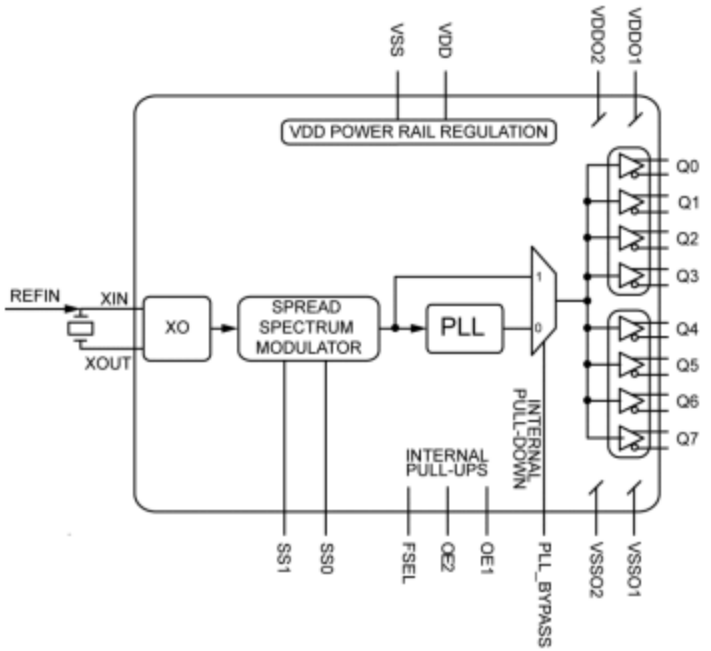
PL607081

Online Datasheet

Product Tree

Features:

- Generates eight HCSL clock outputs
- PL607081 output frequencies: 25MHz, 100MHz, or 200MHz
- PL607082 output frequencies: 25MHz, 125MHz, or 250MHz
- Spread spectrum for EMI reduction
- 2.5V or 3.3V operating range
- Typical phase jitter @ 100MHz: 320fs for 1.5MHz to 10MHz
- Industrial temperature range of -40°C to +85°C
- RoHS and PFOS compliant
- Available in 44-pin 7mm x 7mm QFN package



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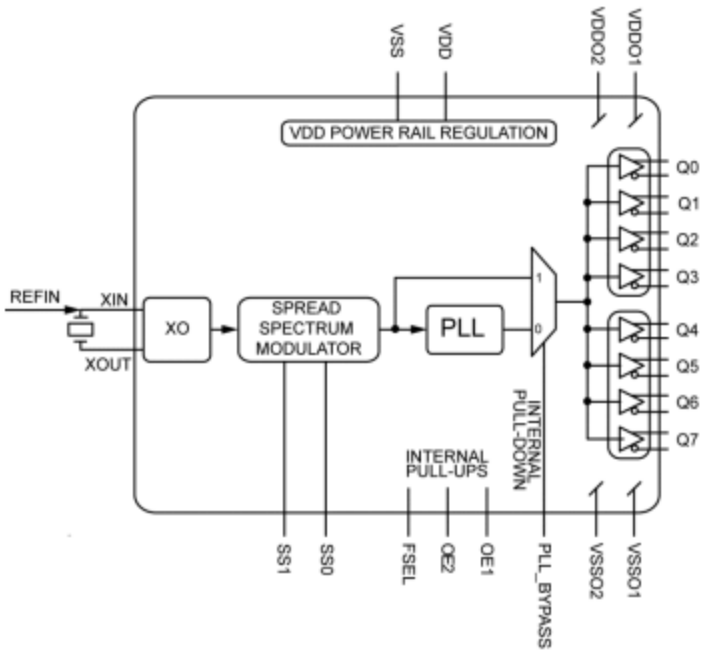
PL607082

Online Datasheet

Product Tree

Features:

- Generates eight HCSL clock outputs
- PL607081 output frequencies: 25MHz, 100MHz, or 200MHz
- PL607082 output frequencies: 25MHz, 125MHz, or 250MHz
- Spread spectrum for EMI reduction
- 2.5V or 3.3V operating range
- Typical phase jitter @ 100MHz: 320fs for 1.5MHz to 10MHz
- Industrial temperature range of -40°C to +85°C
- RoHS and PFOS compliant
- Available in 44-pin 7mm x 7mm QFN package



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PL904

Online Datasheet

Product Tree

Features:

- Input frequency up to 200MHz
- Output frequency up to 850MHz
- Programmable input type, differential or single-ended
- Up to two outputs with LVPECL, LVDS, HCSL, or LVCMOS logic types
- Output enable control for each output
- Jitter attenuation of 20db at 3MHz spur frequency
- Cleans up spurs to below 0.5ps$_{RMS}$ phase jitter
- Operating temperature range from -40°C to +85°C
- Available in 32-pin QFN GREEN/RoHS-compliant package
- Related devices:
  - PL902xxx: LVCMOS, period jitter cleaning
  - PL903xxx: Single-ended input, one differential output, phase noise cleaning

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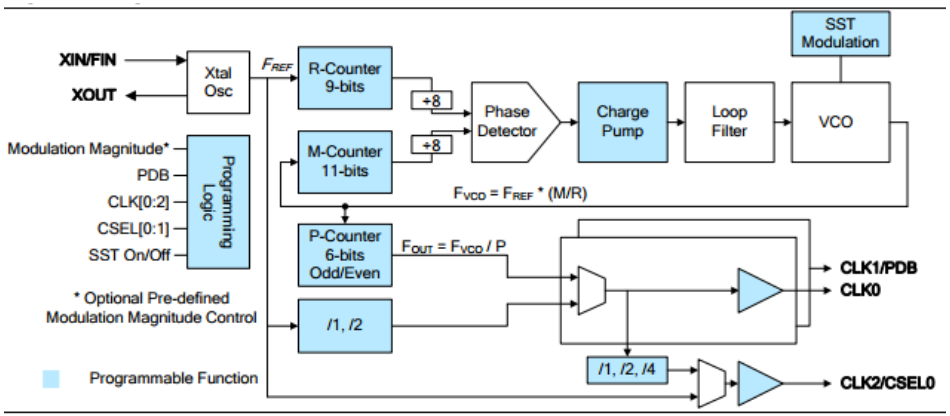
PL671-01

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL with Spread Spectrum
- Crystal or Reference Clock input:
  - Fundamental crystal: 10MHz to 40MHz
  - Reference input: 1MHz to 200MHz
- Accepts ≥0.1V reference signal input voltage
- Up to 3 programmable outputs
- Low Cycle to Cycle jitter
- Single 2.5V or 3.3V ±10% power supply
- Programmable Spread Spectrum Modulation Magnitude:
  - Center Spread: ±0.125% to ±2.0% in ±0.125% steps
  - Down Spread: -0.25% to -4.0% in 0.25% steps
- Spread Spectrum On/Off selection
- Programmable output drive (4mA, 8mA, 16mA)
- Operating temperature range from -40°C to +85°C
- Output frequency range: up to 166MHz @ 2.5V or up to 200MHz @ 3.3V operation
- Available in 8-pin SOP, MSOP and 6-pin SOT GREEN/RoHS compliant packaging



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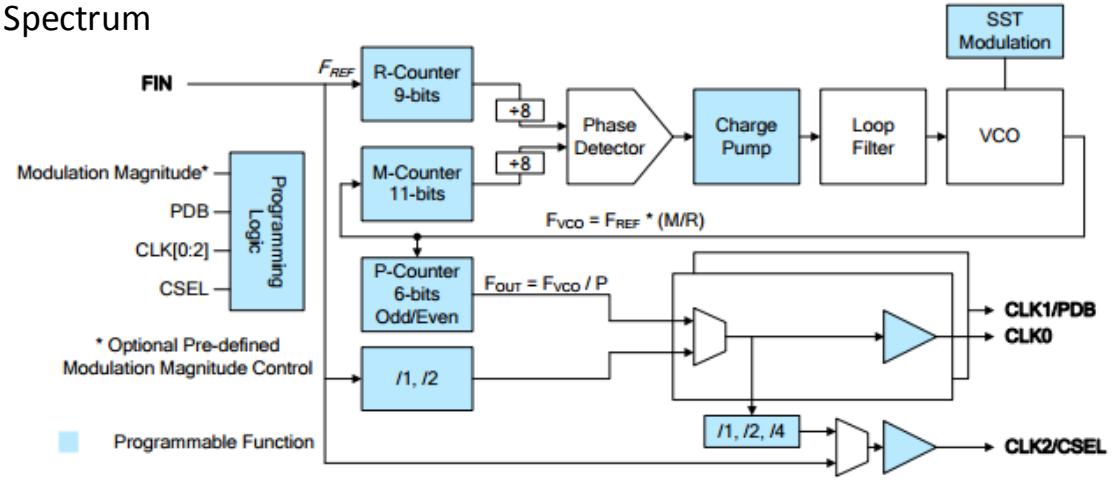
PL671-02

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL with Spread Spectrum
- Reference Clock input:
  - 1MHz to 200MHz
- Output Frequency:
  - ≤200MHz
- Two programmable I/O pins
  - PDB for Power Down function
  - CSEL for Configuration Select
  - CLK1/CLK2 additional clock outputs
- Programmable output drive
- Low Cycle to Cycle jitter
- Single 2.5V or 3.3V ±10% power supply
- Available in 6-pin SOT23 or Thin SOT (TSOT) GREEN/RoHS compliant packaging



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PL671-29

Online Datasheet

Product Tree

Features:

- Accepts Crystal or Reference Clock input:
  - Crystal: 10MHz to 40MHz
  - Reference Clock: 1MHz to 200MHz
- Output Frequency up to 200MHz
- Center and Down Spread Spectrum Modulation
- Spread Spectrum On / Off Control
- Max 100ps Cycle to Cycle jitter
- Single 2.5V - 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Available in SOP-8L GREEN/RoHS compliant package

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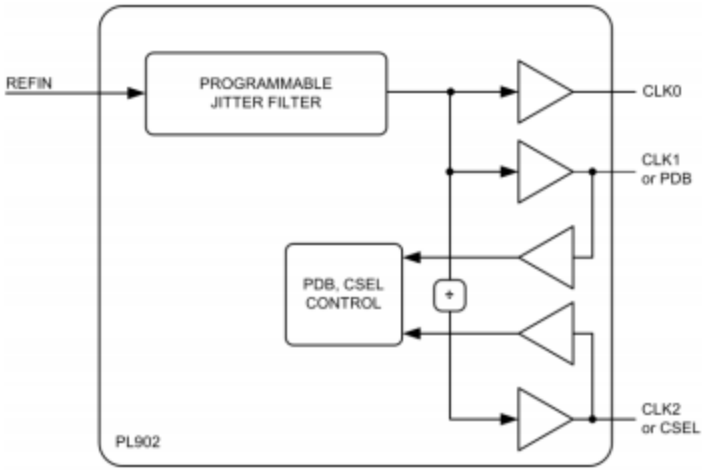
PL902

Online Datasheet

Product Tree

Features:

- Lowest power and smallest programmable jitter attenuator
- Input/output frequency up to 200MHz
- I/O pins can be configured as output enable (OE), frequency switching (CSEL), power down (PDB) input, or CLK1(2) output
- <10µA current consumption with PDB active
- Operating temperature range from –40°C to +85°C
- Available in 6-pin SOT23 GREEN/RoHS-compliant package
- Related devices:
  - PL903xxx: Single-ended input, differential output, and phase noise cleaning
  - PL904xxx: Differential input, two differential outputs, and phase noise cleaning



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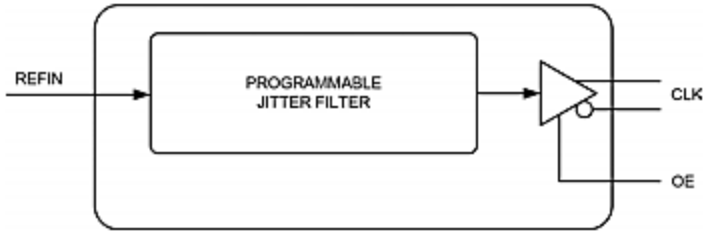
PL903

Online Datasheet

Product Tree

Features:

- Lowest-power, smallest programmable jitter attenuator
- Input frequency up to 200MHz
- Output frequency up to 840MHz
- Jitter attenuation 20dB at 3MHz spur frequency
- Additive phase jitter or phase jitter floor:
  - 55fs for 1.875MHz to 20MHz
  - 251fs for 12kHz to 20MHz
- Single ended CMOS input
- One differential or two single ended outputs. Output logic types supported are LVPECL, LVDS, HCSL and LVCMOS (single ended or differential).
- Operating temperature range from –40°C to +85°C
- Available in 24-pin QFN RoHS-compliant package
- Related devices:
  - PL902xxx: LVCMOS, period jitter cleaning
  - PL904xxx: Differential input, two differential outputs, and phase noise cleaning



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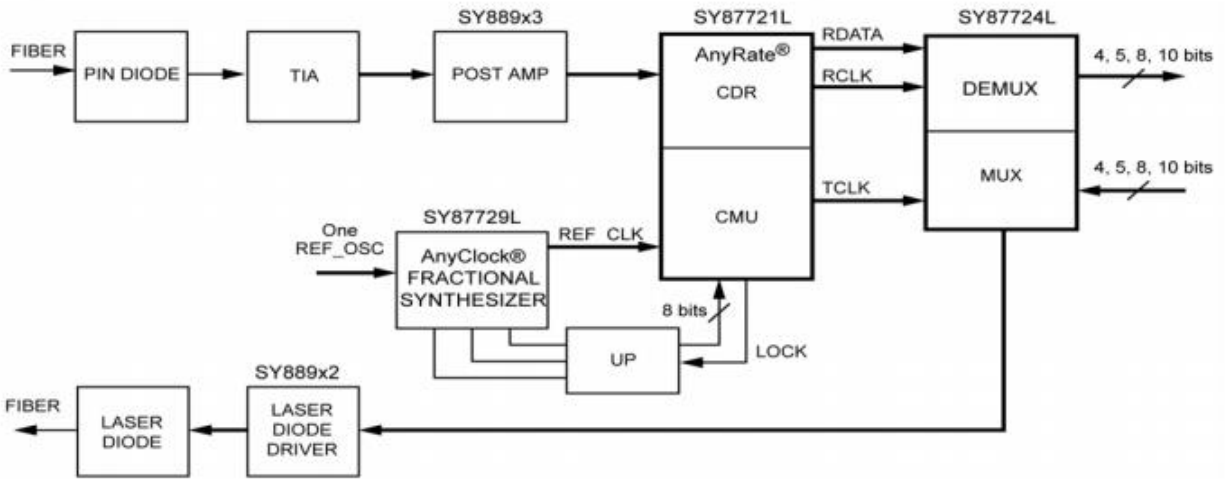
SY87729L

Online Datasheet

Product Tree

Features:

- Fractional synthesizer from 10MHz to 365MHz from a single 27MHz reference oscillator
- Generates exactly the correct frequency for common transport protocols with or without FEC
- Directly enables SY87721L to lock onto any data rate within its range
- Exceeds BellCore and ITU jitter generation specifications
- Programmable via MicroWire™ interface
- Available in 32-Pin EPAD-TQFP package



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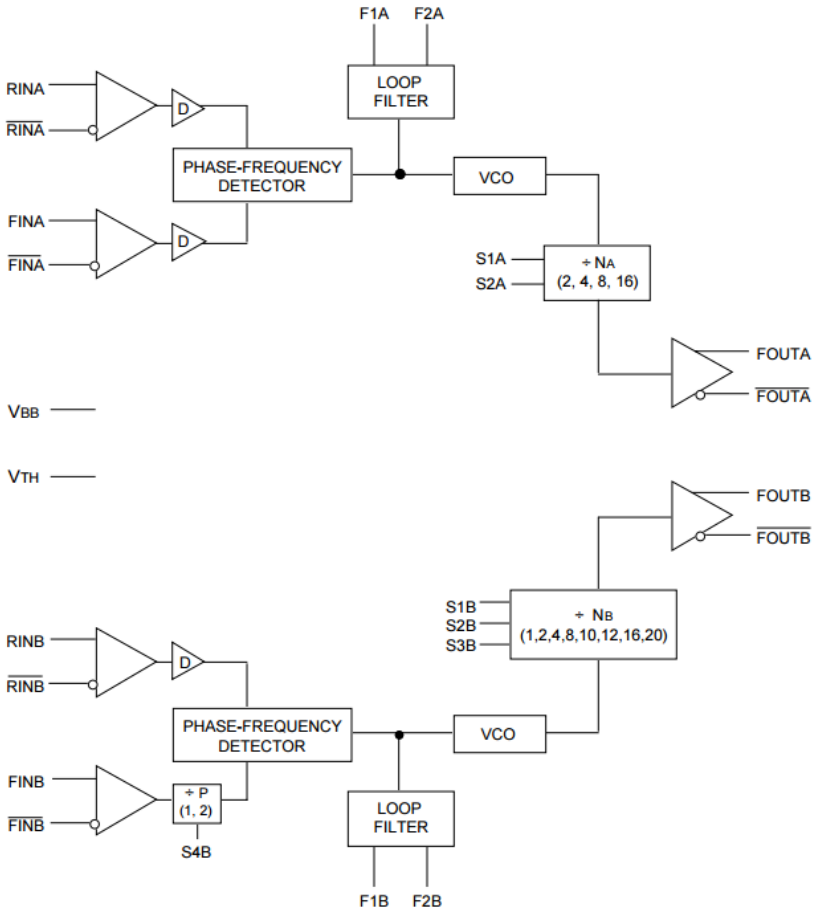
SY89420V

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 1.12GHz maximum VCO frequency
- 30MHz to 560MHz reference input operating frequency
- Frequency doubler mode
- Low jitter design
- PECL differential outputs
- PECL and TTL reference voltages available
- External loop filter optimizes performance/cost
- Available in 28-pin PLCC package



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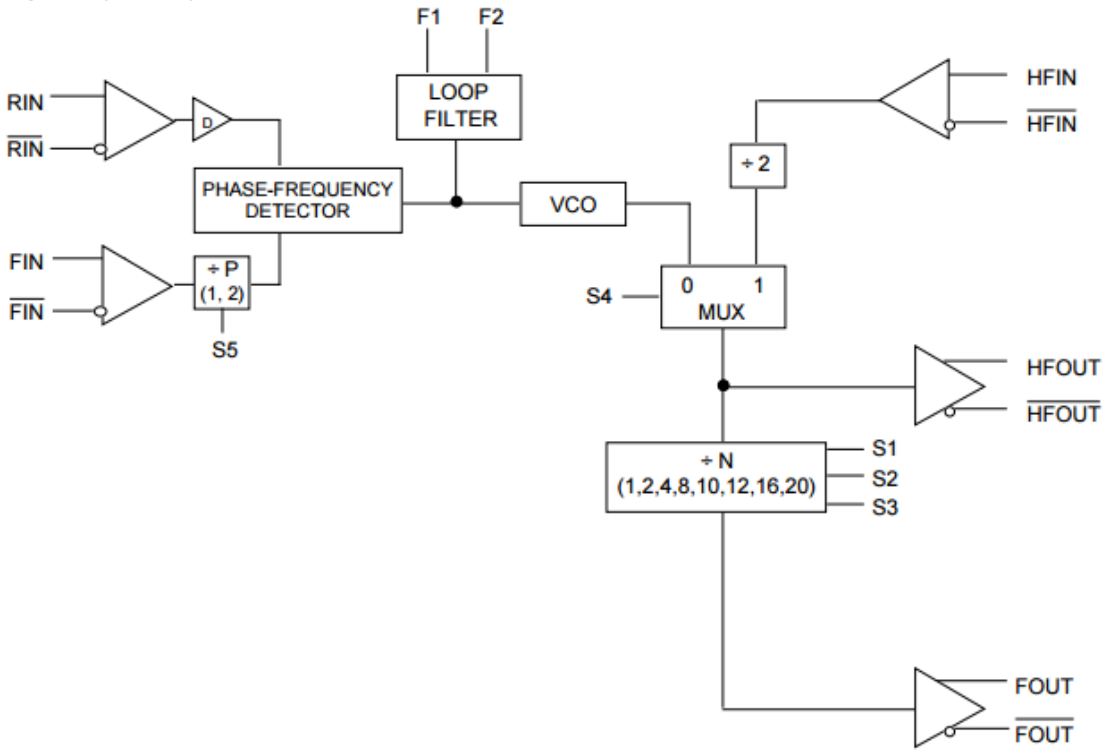
SY89421V

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 1.12GHz maximum VCO frequency
- 30MHz to 560MHz reference input operating frequency
- External 2.0GHz VCO capability
- Low jitter differential design
- PECL differential outputs
- Frequency doubler mode
- External loop filter optimizes performance/cost
- Available in 20-pin SOIC package



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SY89429A

Not Recommended for new designs

Online Datasheet

Product Tree

Features:

- Improved jitter performance over SY89429
- 25 to 400MHz differential PECL outputs
- ±25ps peak-to-peak output jitter
- Minimal frequency over-shoot
- Synthesized architecture
- Serial 3 wire interface
- Parallel interface for power-on
- Internal quartz reference oscillator driven by quartz crystal or PECL source
- PECL output can operate with either +3.3V or +5V VCC_OUT power supply
- External loop filter optimizes performance/cost
- Applications note (AN-06) for ease of design-ins
- Available in PLCC and SOIC 28-pin packages

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NA on web

SY89531L

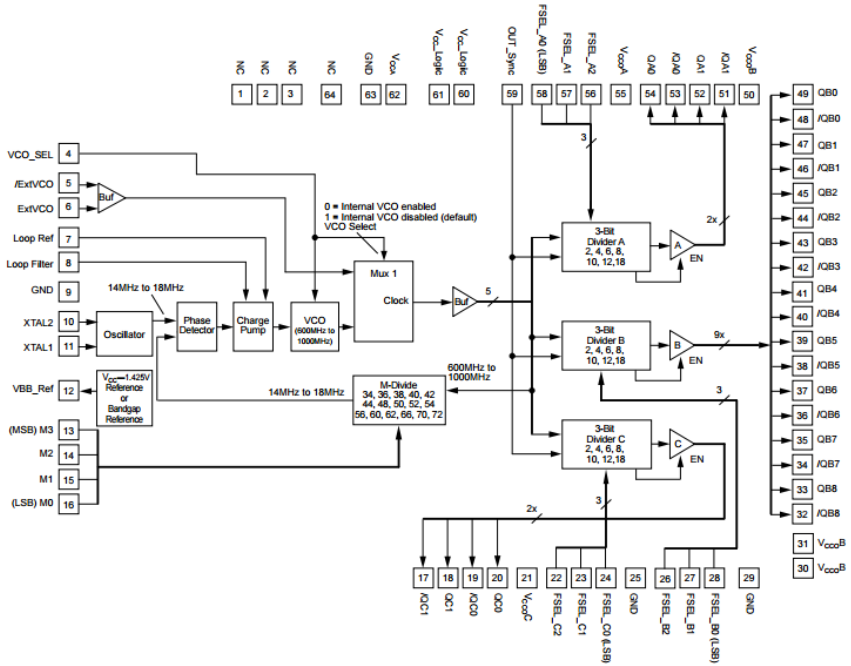
Online Datasheet

Product Tree

Features:

Low pin-to-pin skew: <50ps

- 33MHz to 500MHz output frequency range
- Direct interface to crystal: 14MHz to 18MHz
- LVPECL/HSTL outputs
- TTL/CMOS compatible control logic
- 3 independently programmable output frequency banks:
  - 9 differential output pairs @BankB (HSTL)
  - 2 differential output pairs @BankA (LVPECL)
  - 2 differential output pairs @BankC (LVPECL)
- ExtVCO input allows synthesizer and crystal interface to be bypassed
- Available in 64-pin EPAD-TQFP



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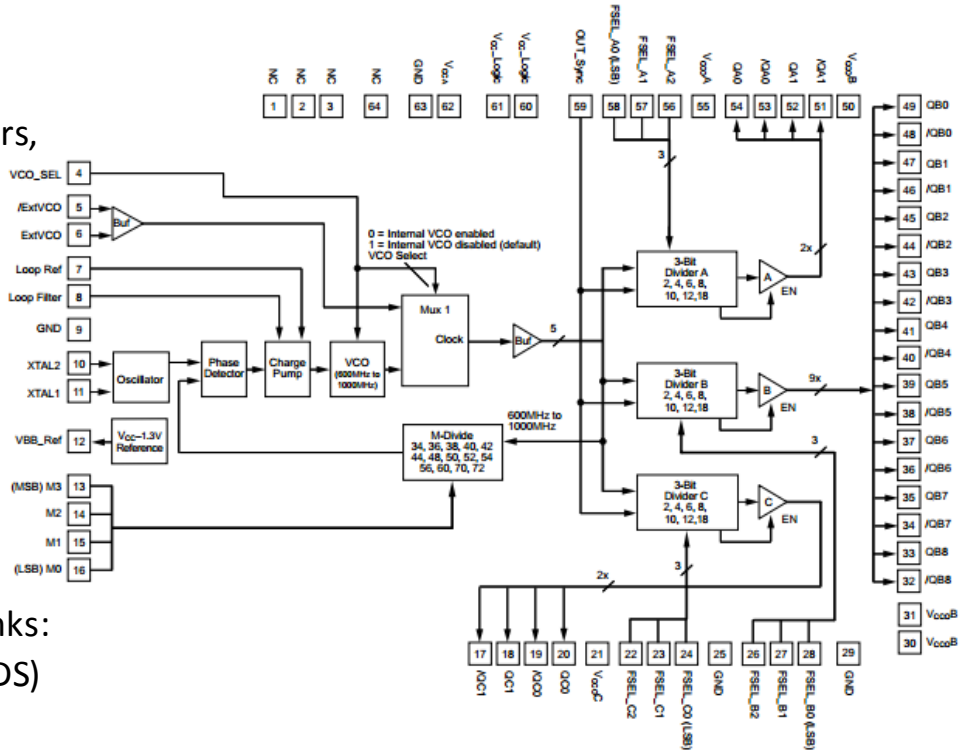
SY89532L

Online Datasheet

Product Tree

Features:

- Integrated synthesizer plus fanout buffers, clock drivers, and translator in a single 64-pin package
- 3.3V ±10% power supply
- Low jitter: <50ps cycle-to-cycle
- Low pin-to-pin skew: <50ps
- 33MHz to 500MHz output frequency range
- Direct interface to crystal: 14MHz to 18MHz
- LVPECL output (SY89532L), LVPECL/LVDS outputs (SY89533L)
- TTL/CMOS compatible control logic
- 3 independently programmable output frequency banks:
  - 9 differential output pairs @BankB (LVPECL/LVDS)
  - 2 differential output pairs @BankA (LVPECL)
  - 2 differential output pairs @BankC (LVPECL)
- ExtVCO input allows synthesizer and crystal interface to be bypassed
- Available in 64-pin EPAD-TQFP



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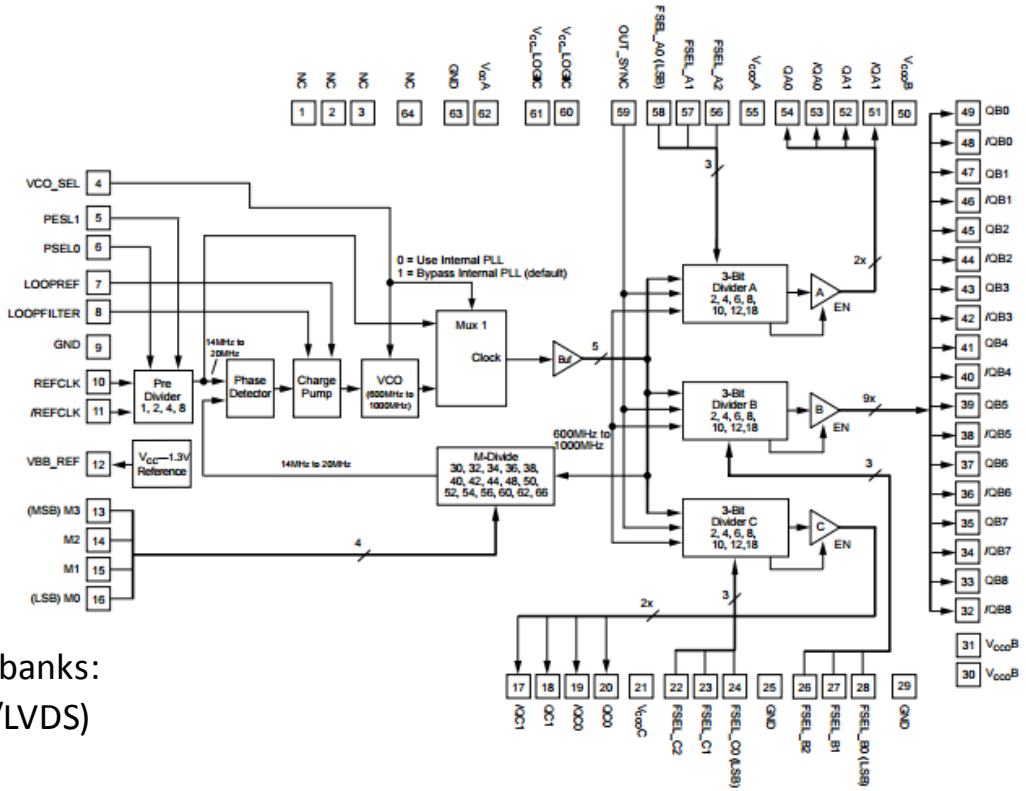
SY89534L

Online Datasheet

Product Tree

Features:

- Integrated synthesizer plus fanout buffers, clock dividers, and translator in a single 64-pin package
- Accepts any reference input between 14MHz to 160MHz (single-ended or differential)
- 33MHz to 500MHz output frequency range
- LVPECL outputs (SY89534L)
- LVPECL and LVDS outputs (SY89535L)
- 3.3V ±10% power supply
- Low jitter: <50ps cycle-to-cycle
- Low pin-to-pin skew: <50ps
- TTL/CMOS compatible control logic
- 3 independently programmable output frequency banks:
  - 9 differential output pairs @BankB (LVPECL/LVDS)
  - 2 differential output pairs @BankA (LVPECL)
  - 2 differential output pairs @BankC (LVPECL)
- Available in 64-pin EPAD-TQFP



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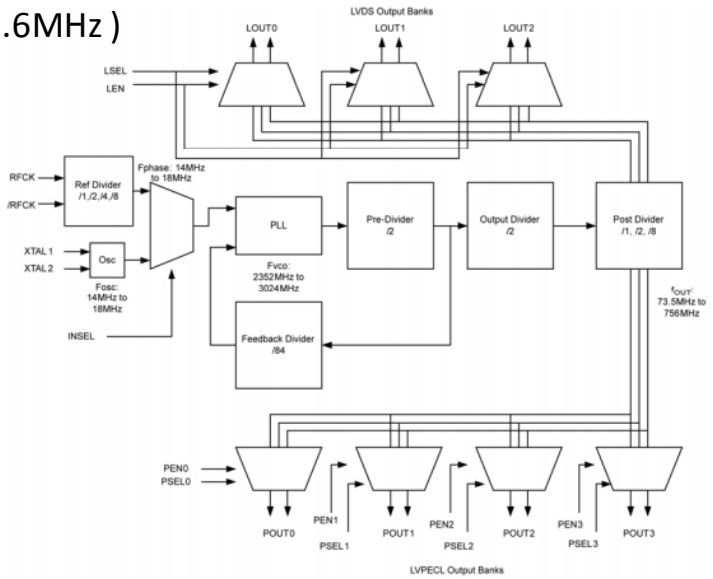
SY89537L

Online Datasheet

Product Tree

Features:

- Integrated programmable synthesizer with multiple output dividers, fanout buffers, and clock drivers
- Direct interface to crystal: 14MHz to 18MHz Input MUX accepts a reference and a crystal (XTAL) source
  - Ideal for reference backup clock source or system test frequency source
  - Patent-pending unique input MUX isolates XTAL and reference inputs minimizes crosstalk
- Guaranteed AC performance:
  - 87.15MHz to 700MHz output frequency range (with RFCK at 16.6MHz)
  - <100ps$_{PP}$ total jitter
  - <7ps$_{RMS}$ cycle-to-cycle jitter
  - <8ps$_{PP}$ deterministic jitter
  - <0.7ps$_{RMS}$ crosstalk induced jitter
  - <50ps bank-to-bank skew
- Output bank synchronization control pin
- LVPECL and LVDS outputs
- TTL/CMOS compatible control logic
- Five independently programmable output frequency banks:
  - Four differential LVPECL output banks
  - One differential LVDS output bank with 3 output pairs
- Separate output enable for each bank
- 3.3V ±10% power supply (2.5V output capable)
- Guaranteed over the industrial temperature range (-40°C to +85°C)
- Available in 44-pin (7mm x 7mm) MLF® package



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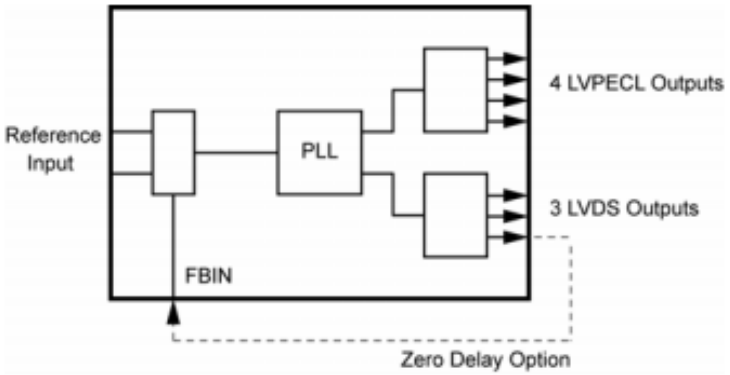
SY89538L

Online Datasheet

Product Tree

Features:

- Generates six LVDS 125MHz clocks and two HCSL 125MHz clocks
- 2.5V or 3.3V operating range
- Typical phase jitter @ 125MHz (1.875MHz to 20MHz): 100fs
- Industrial temperature range (-40°C to +85°C)
- Green, RoHS, and PFOS compliant
- Available in 44-pin 7mm x 7mm QFN package



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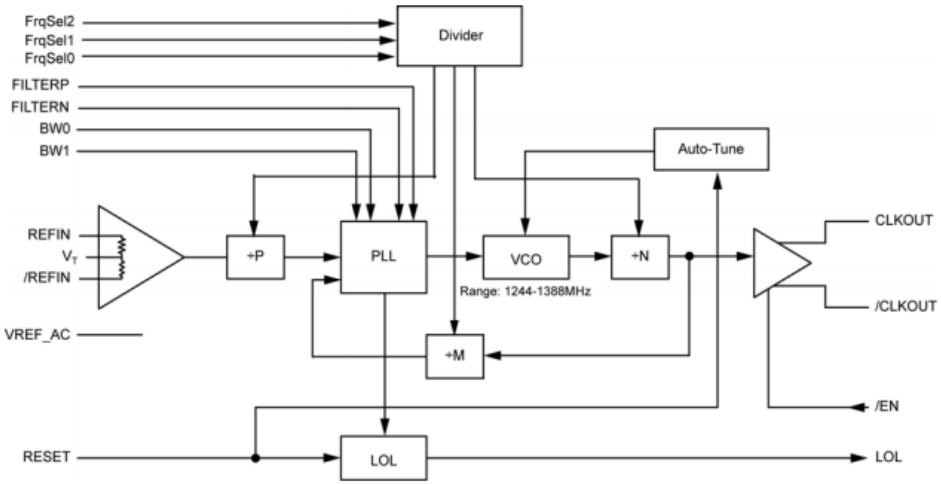
SY89610L

Online Datasheet

Product Tree

Features:

- Low-Jitter output
- Output Frequency Range: 77.75MHz – 694MHz
- Input Frequency Range: 19.44MHz – 694MHz
- Ultra-low phase noise and jitter performance
  - <2ps RMS Output Jitter Gen (12kHz-20MHz)
  - Low Phase Noise: -80dBc/Hz at 1kHz offset
  - CML compatible output signal
  - 3-pin input accepts an AC- or DC-coupled differential input (LVDS, LVPECL, and CML)
  - Unique, Auto-Tune circuitry enables precision frequency calibration.
- Internal source termination to minimize round-trip reflections
- Programmable Loop Bandwidth: 1kHz-10kHz
- Output Enable/disable function
- Includes Loss of Lock (LOL) output pin
- 1.8V ±5% to 3.3V ±10% output power supply
- 3.3V ±10% power supply operation
- Industrial temperature range: –40°C to +85°C
- Available in 32-pin (5mm x 5mm) MLF® package



<< BACK

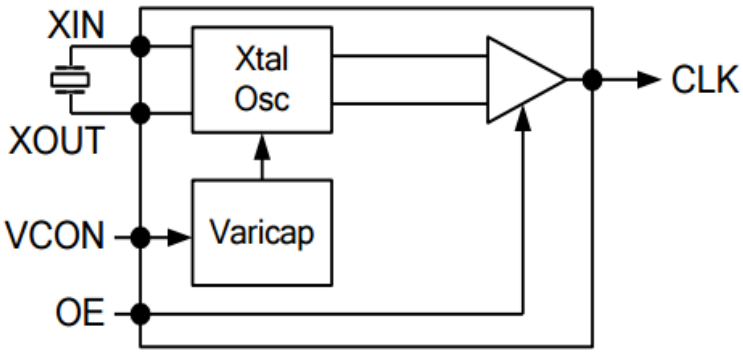
PL500-17

Online Datasheet

Product Tree

Features:

- VCXO output for the 17MHz to 36MHz range
- Low phase noise (-130dBc @ 10kHz offset at 35.328MHz)
- LVCMOS output with OE tri-state control
- 17 to 36MHz fundamental crystal input
- Integrated high linearity variable capacitors
- 8mA drive capability at TTL output
- ±150 ppm pull range, max 5% (typ.) linearity
- Low jitter (RMS): 2.5ps period jitter
- 2.5V to 3.3V operation
- Available in 8-Pin SOP, 6-pin SOT23 GREEN/ RoHS compliant packages, or Die



<< BACK

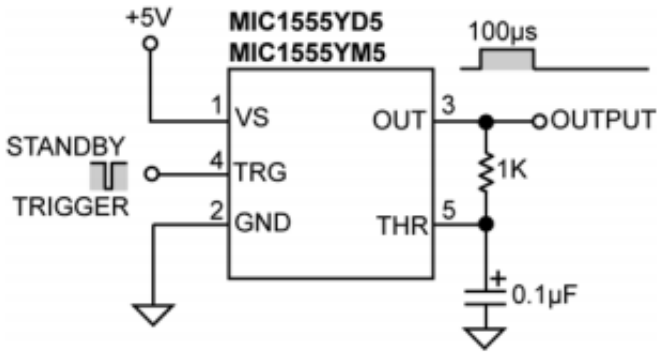
MIC1555

Online Datasheet

Product Tree

Features:

- +2.7V to +18V operation
- Low current
  - <1µA typical shutdown mode (MIC1557)
  - 200µA typical (TRG and THR low) at 3V supply
- Timing from microseconds to hours
- "Zero" leakage trigger and threshold inputs
- 50% square wave with one Resistor, one Capacitor
- Threshold input precedence over trigger input
- <15Ω output on resistance
- No output cross-conduction current spikes
- <0.005%/°C temperature stability
- <0.055%/V supply stability
- Small SOT-23-5 surface mount package



Monostable (One-Shot)

<< BACK

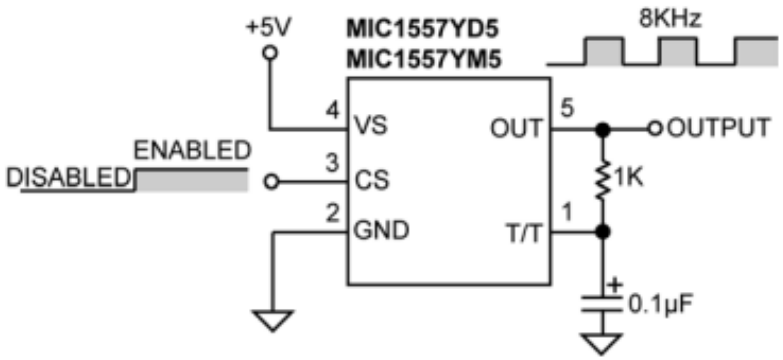
MIC1557

Online Datasheet

Product Tree

Features:

- +2.7V to +18V operation
- Low current
  - <1µA typical shutdown mode (MIC1557)
  - 200µA typical (TRG and THR low) at 3V supply
- Timing from microseconds to hours
- "Zero" leakage trigger and threshold inputs
- 50% square wave with one Resistor, one Capacitor
- Threshold input precedence over trigger input
- <15Ω output on resistance
- No output cross-conduction current spikes
- <0.005%/°C temperature stability
- <0.055%/V supply stability
- Small SOT-23-5 surface mount package



Astable (Oscillator)

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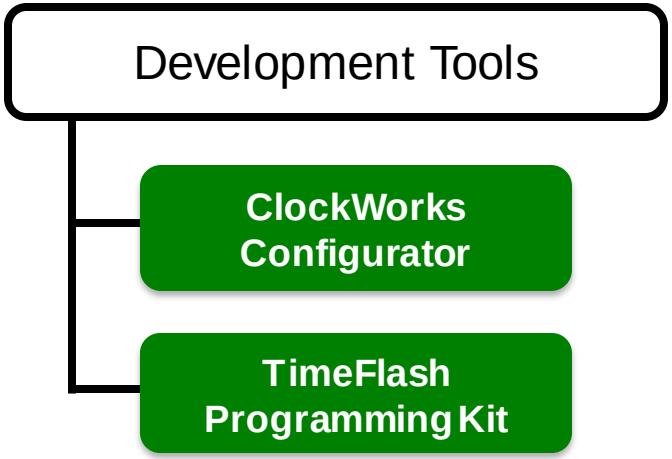
DEVELOPMENT TOOLS

Product Tree



<< BACK

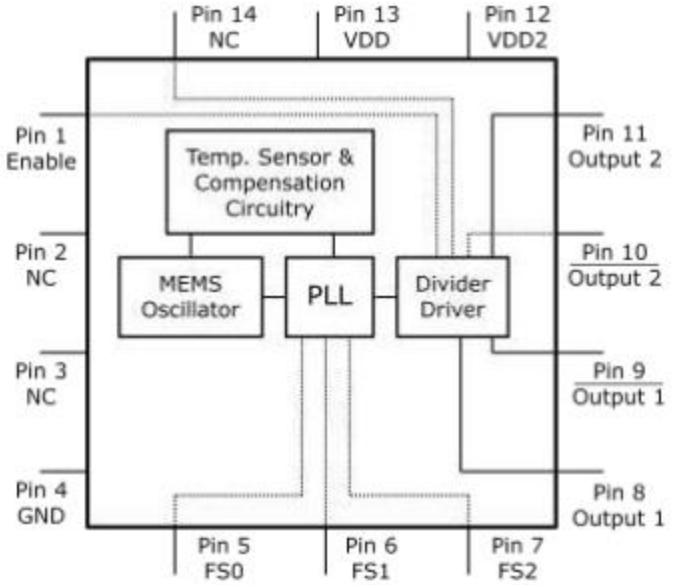
DSC2XXX

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: 1.5 ps (typ.)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range: -20°C to 105°C
- High Supply Noise Rejection: -50dBc
- Two configurable independent outputs:
  - LVCMOS, LVPECL, LVDS, HCSL
- Pin-Selectable Configurations:
  - 3-bit Output Frequency Combinations
- Short Lead Times: 2 Weeks
- Wide Freq. Range: 2.3 to 460MHz
- Miniature Footprint of 3.2mm x 2.5mm
- Excellent Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than quartz oscillators
- Lead Free and RoHS Compliant
- Supply Range of 2.25V to 3.6V



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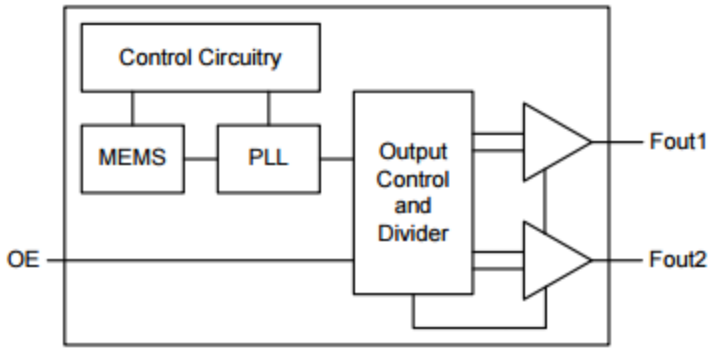
DSC2311

Online Datasheet

Product Tree

- Two Simultaneous CMOS Outputs
  - Output 1 Range: 2.3 to 170MHz
  - Output 2 Range: 2.3 to 170MHz
- Low RMS Phase Jitter: <1 ps (typ.)
- High Stability: ±25 ppm; ±50 ppm
- Wide Temperature Range
  - Automotive: -55°C to 125°C
  - Ext. Industrial: -40°C to 105°C
  - Industrial: -40°C to 85°C
  - Ext. Commercial: -20°C to 70°C
- High Supply Noise Rejection: -50dBc
- High Shock & Vibration Immunity
  - Qualified to MIL-STD-883
- High Reliability
  - 20x better MTF than crystal-based clock generator designs
- Lead Free and RoHS Compliant
- Supply Range of 2.25V to 3.6V
- Short Lead Times: 2 Weeks



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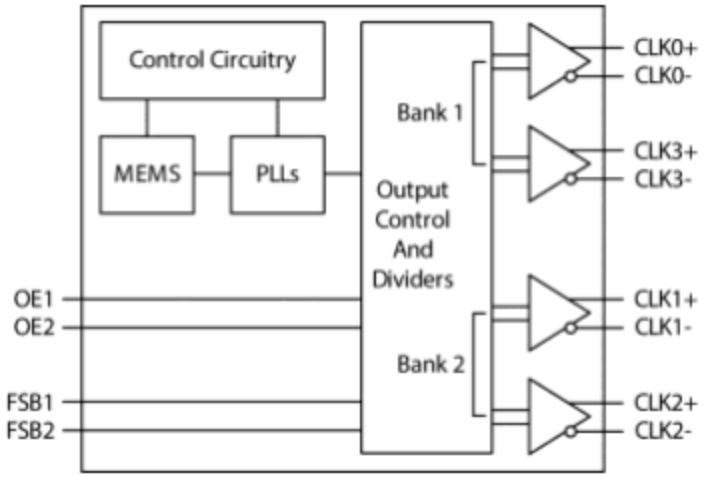
DSC400

Online Datasheet

Product Tree

Features:

- Low RMS Phase Jitter: <1ps (typ.)
- High Stability: ±25ppm, ±50ppm
- Wide Temperature Range:
- Ext. commercial: -20°C to +70°C
- Industrial: -40°C to +85°C
- High Supply Noise Rejection: -50dBc
- Wide frequency range: 2.3MHz to 460MHz
- 20-pin QFN footprint (5.0mm x 3.2mm)
- Excellent shock and vibration immunity:
- Qualified to MIL-STD-883
- Four format-configurable outputs: LVPECL, LVDS, HCSL, LVCMOS
- Available pin-selectable frequency table: 1 pin per bank for two frequency sets
- High Reliability: 20x better MTF than quartz-based devices
- Wide supply range of 2.25V to 3.6V
- Lead free & RoHS-compliant
- AEC-Q100 Automotive qualified



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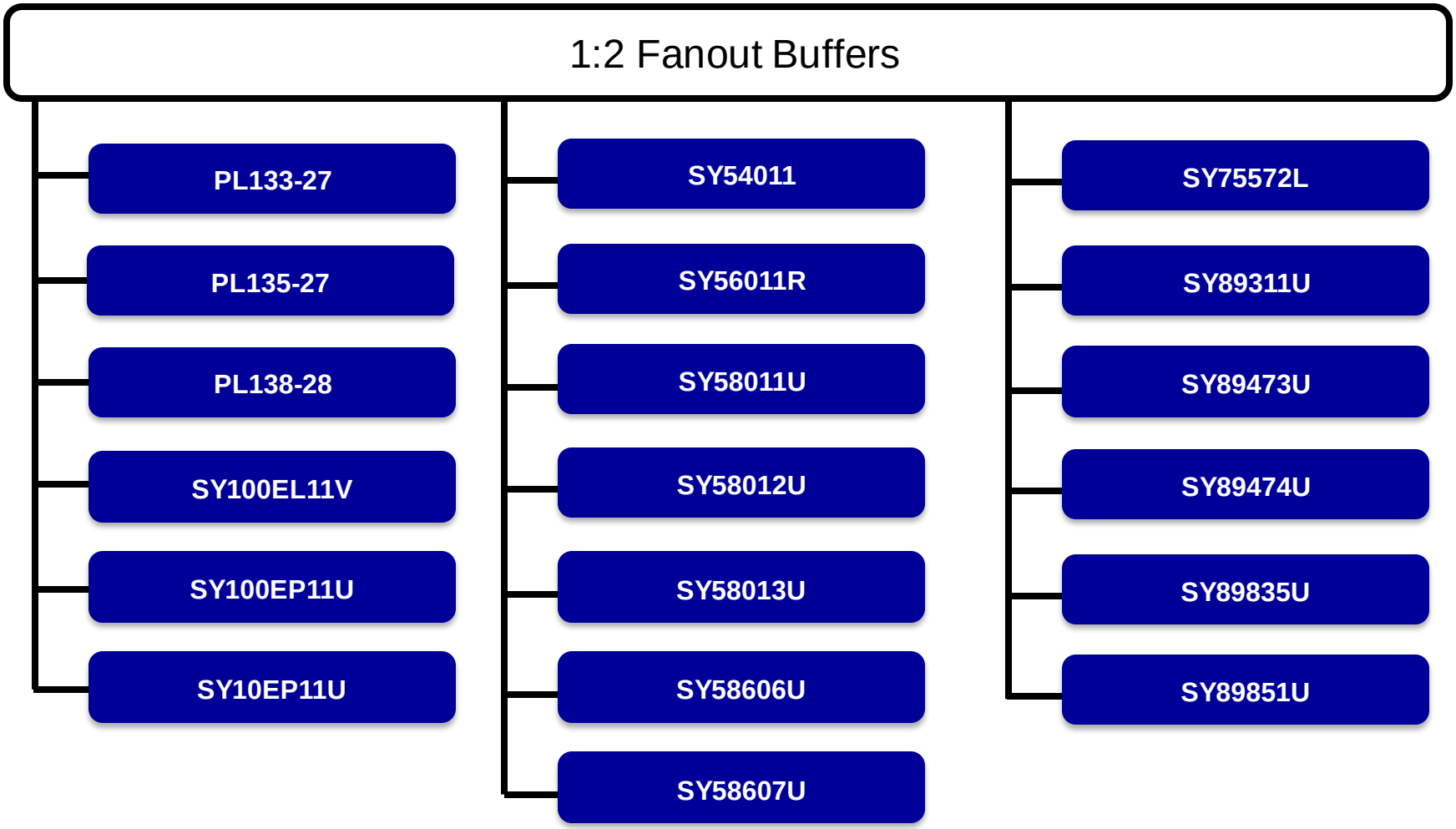
1:2 Fanout Buffers

Product Tree



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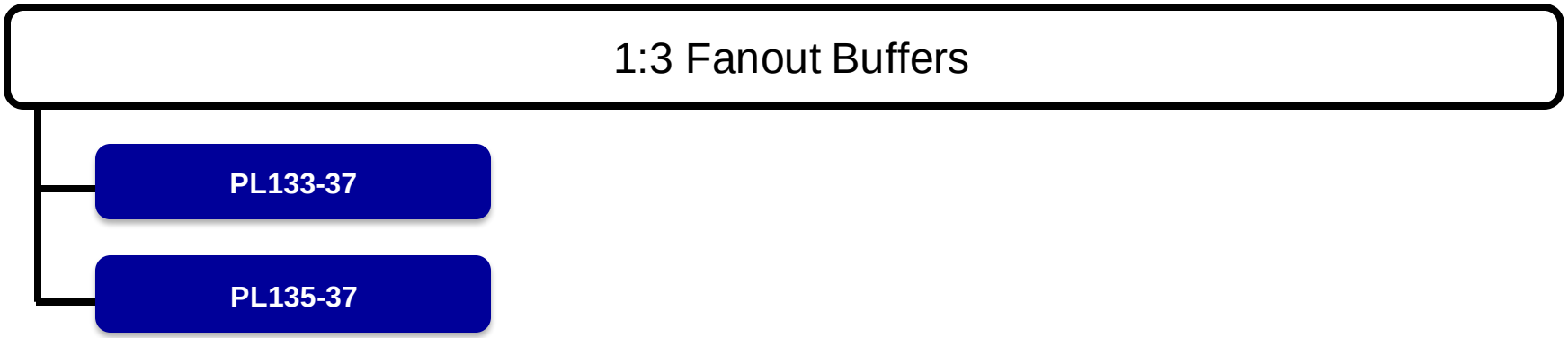
1:3 Fanout Buffers

Product Tree



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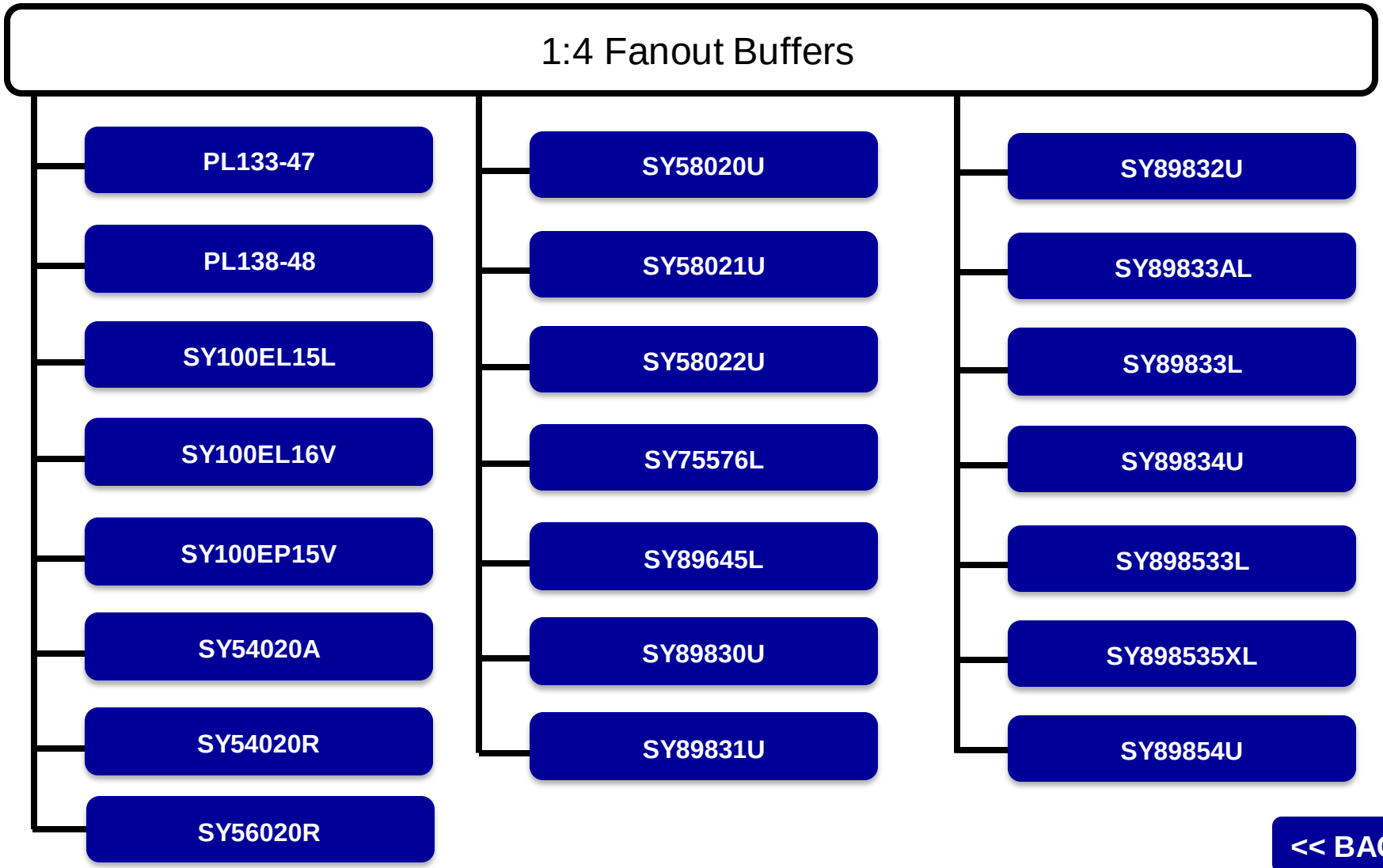
1:4 Fanout Buffers

Product Tree



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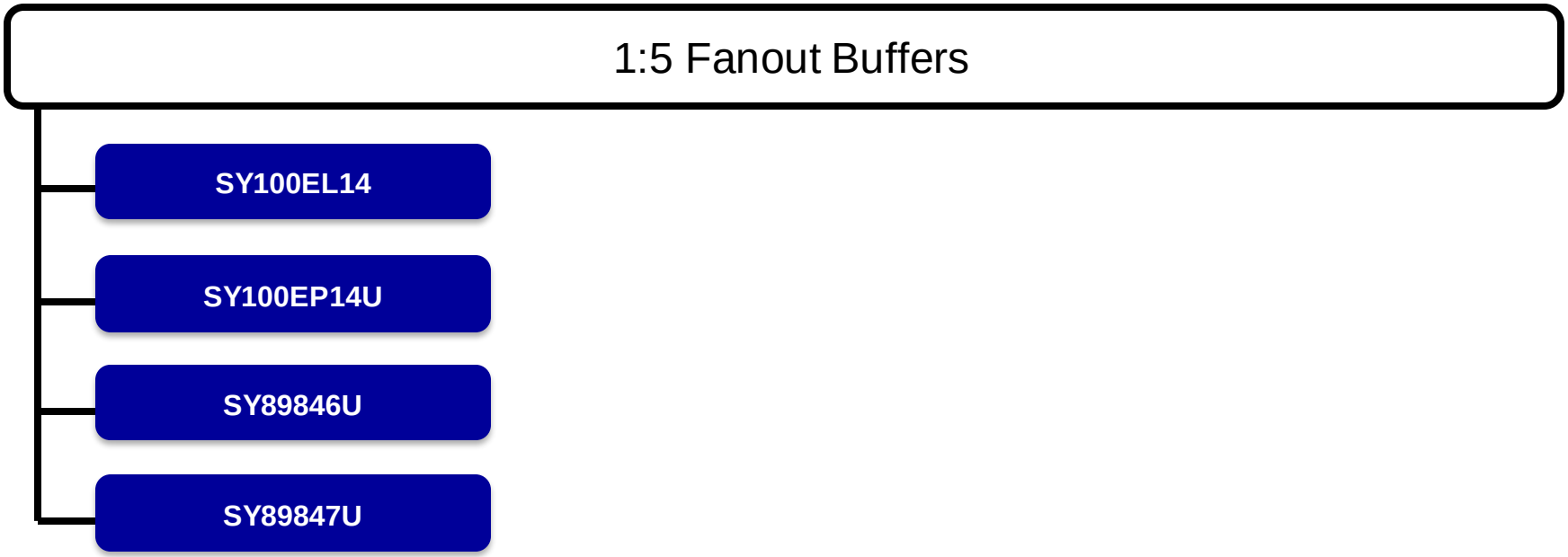
1:5 Fanout Buffers

Product Tree



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1:6 Fanout Buffers

Product Tree

1:6 Fanout Buffers

- PL133-67
- PL135-67
- SY58034U
- SY58035U
- SY58036U
- SY89856U

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1:8 Fanout Buffers

Product Tree

1:8 Fanout Buffers

- SY58031U
- SY58032U
- SY58033U
- SY75578L
- SY89837U
- SY89838U
- SY89858U

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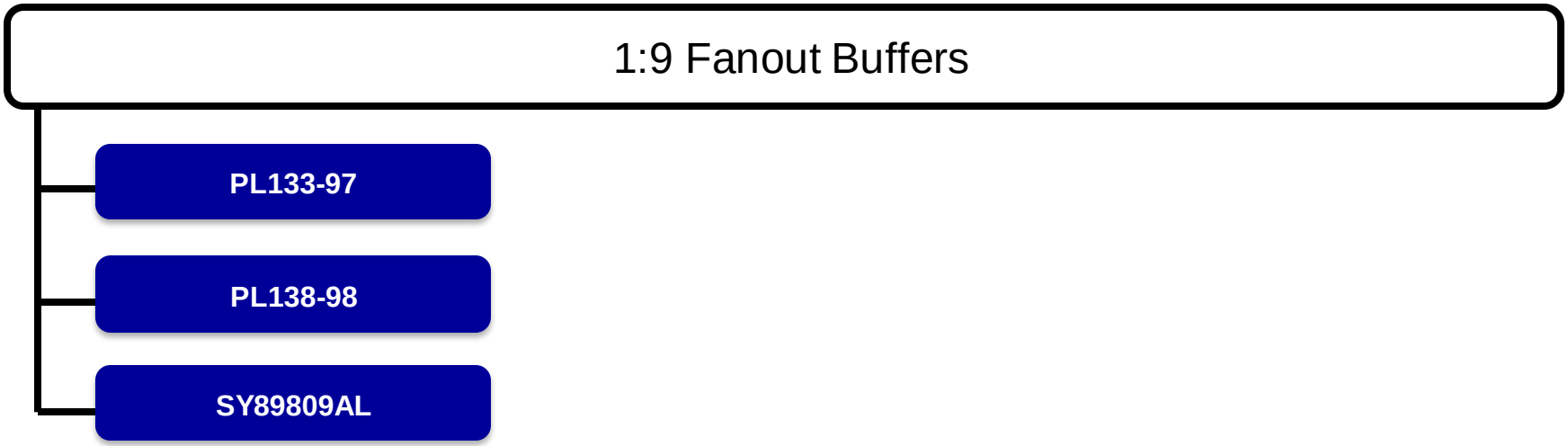
1:9 Fanout Buffers

Product Tree



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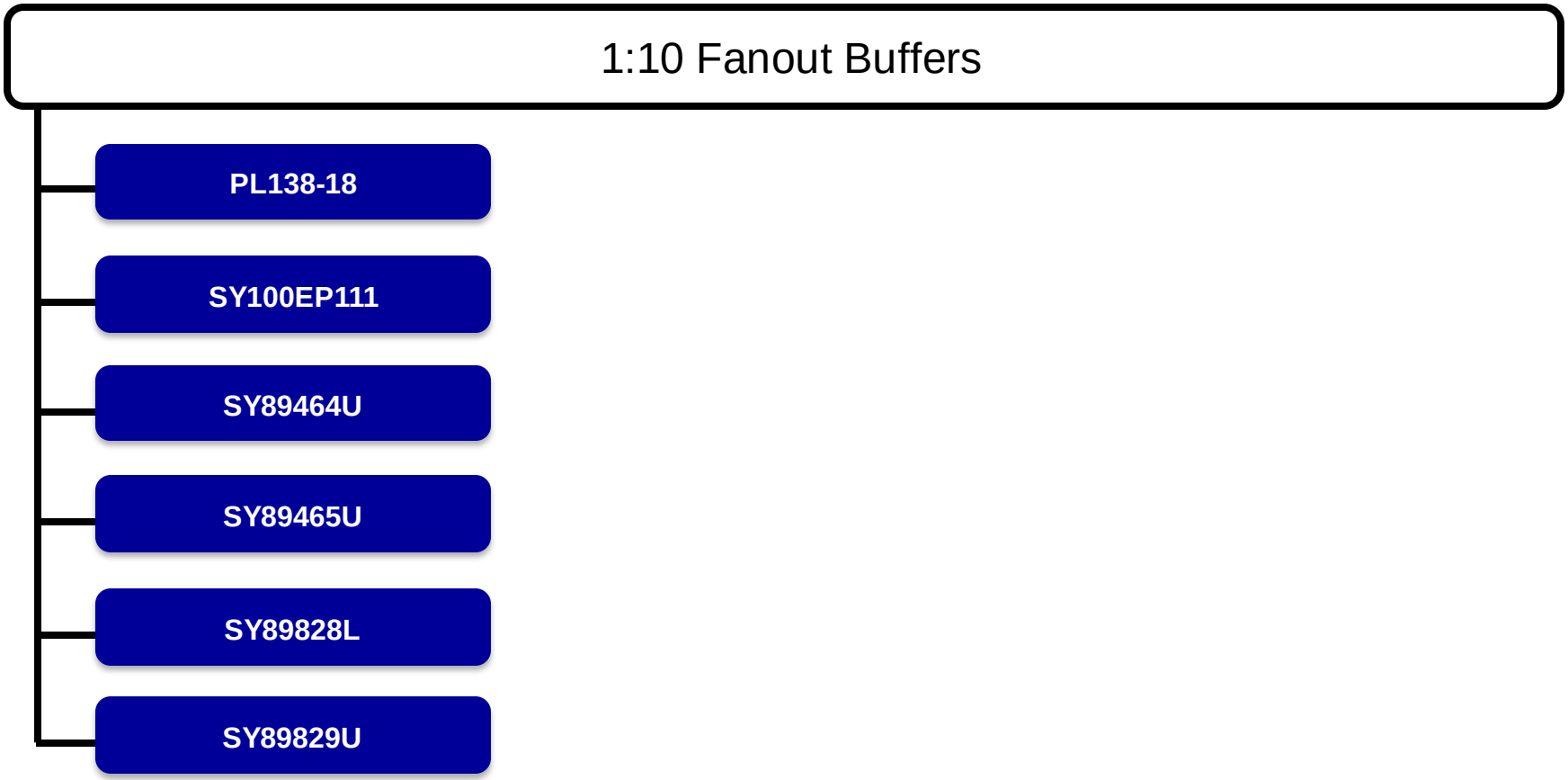
1:10 Fanout Buffers

Product Tree



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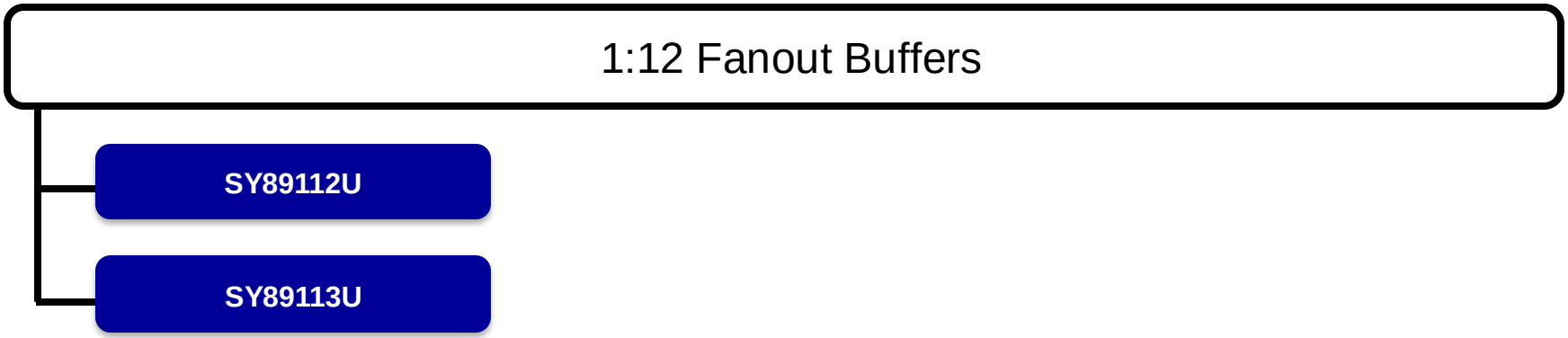
1:12 Fanout Buffers

Product Tree



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1:16 Fanout Buffers

Product Tree

1:16 Fanout Buffers

- SY898530U

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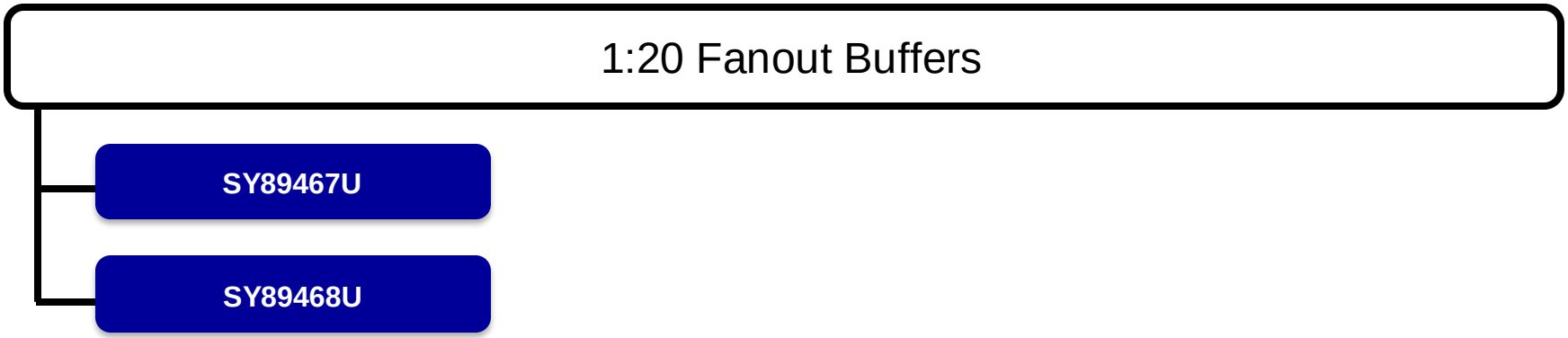
1:20 Fanout Buffers

Product Tree



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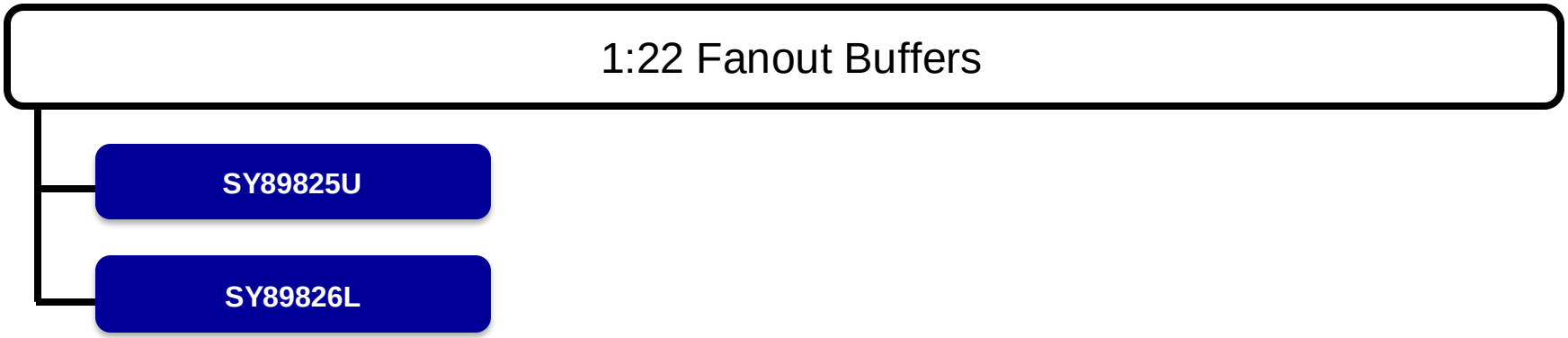
1:22 Fanout Buffers

Product Tree



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2:8 Fanout Buffers

Product Tree

2:8 Fanout Buffers

- SY100E310L

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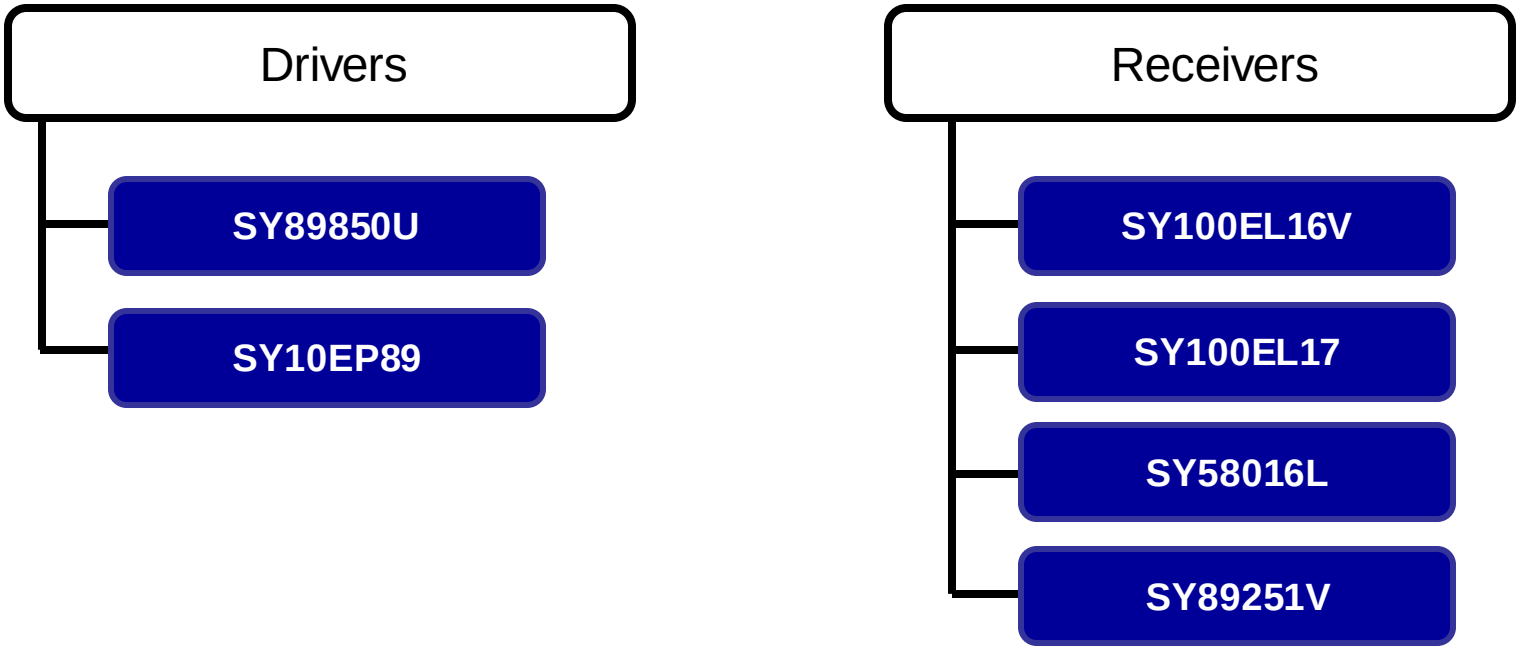
Drivers & Receivers

Product Tree



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Blank

Online Datasheet

Product Tree

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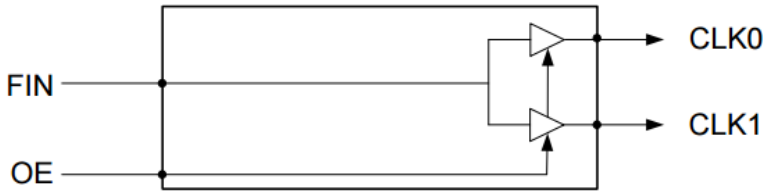
PL133-27

Online Datasheet

Product Tree

Features:

- 2 LVCMOS Outputs
- Input/Output Frequency: 1MHz to 150MHz
- Supports LVCMOS or Sine Wave Input Clock
- Extremely low additive Jitter
- 8mA Output Drive Strength
- Low Current Consumption
- Single 1.8V, 2.5V or 3.3V ±10% operation
- Operating Temperature Range:
  - 0°C to 70°C (Commercial)
  - -40°C to 85°C (Industrial)
- Available in DFN-6L GREEN/RoHS Compliant Packages



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PL135-27

Online Datasheet

Product Tree

Features:

Advanced oscillator design for wide frequency coverage

Two LVCMOS Outputs

8mA Output Drive Strength

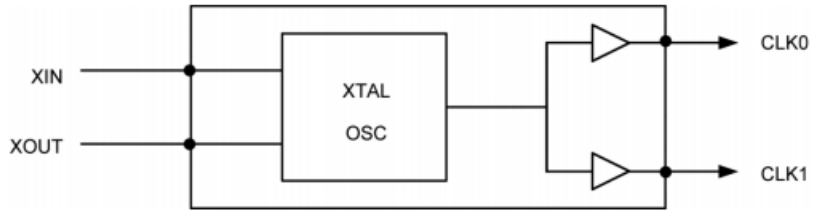
Input/Output Frequency: 10MHz to 40MHz fundamental crystal

Very low jitter and phase noise

Low current consumption

Single 1.62V to 3.63V power supply

Available in 2.0mm x 13.mm DFN-6L, GREEN/RoHS-compliant package



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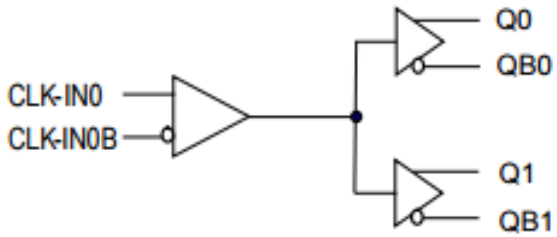
PL138-28

Online Datasheet

Product Tree

FEATURES

- Two differential 2.5V/3.3V LVPECL output pairs.
- Output Frequency: ≤ 1 GHz.
- Translates any standard single-ended or differential input format to LVPECL output. It can accept the following standard input formats and more:
  - LVPECL, LVCMOS, LVDS, HCSL, SSTL, LVHSTL, CML.
- Output Skew: 25ps (typ.).
- Part-to-part skew: 140ps (typ.).
- Propagation delay: 1.5ns (typ.).
- Additive Jitter: <100 fs (typ.).
- Operating Supply Voltage: 2.375V ~ 3.63V.
- Operating temperature range from -40°C to 85°C.
- Package availability: SOP-8L and TSSOP-8L.



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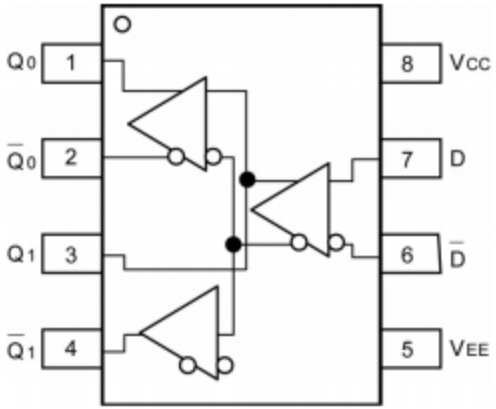
SY100EL11V

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 265ps propagation delay
- 5ps skew between outputs
- High bandwidth output transitions
- Internal 75kΩ input pull-down resistors
- Replaces SY10/100EL11
- Improved output waveform characteristics
- Available in 8-pin SOIC package



8-Pin SOIC (Z8-1)

<< BACK

SY100EP11U

Online Datasheet

Product Tree

Features

- 2.5V, 3.3V, and 5V power supply options
- Guaranteed AC parameters over temperature:
  - fMAX = >3GHz
  - <20ps output-to-output skew
  - <200ps tr/tf
  - <300ps propagation delay
- Wide temperature range: -40°C to +85°C
- Available in 8-Pin (3mm x 3mm) MSOP and SOIC packages

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SY10EP11U

Online Datasheet

Product Tree

Features:

- 2.5V, 3.3V, and 5V power supply options
- Guaranteed AC parameters over temperature:
  - fMAX = >3GHz
  - <20ps output-to-output skew
  - <200ps tr/tf
  - <300ps propagation delay
- Wide temperature range: -40°C to +85°C
- Available in 8-Pin (3mm x 3mm) MSOP and SOIC packages

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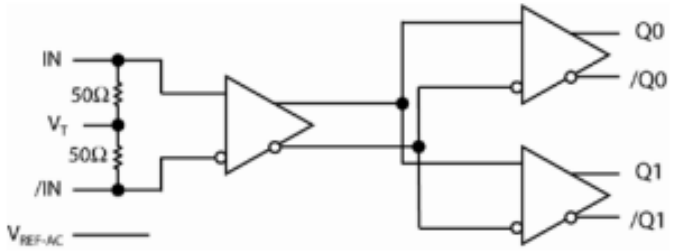
SY54011

Online Datasheet

Product Tree

Features:

- 1.2V/1.8V/2.5V CML 1:2 Fanout Buffer
- Guaranteed AC performance over temperature and voltage:
  - DC-to >3.2Gbps throughput
  - <300ps propagation delay (IN-to-Q)
  - <15ps within-device skew
  - <95ps rise/fall times
- Ultra-low jitter design
  - <50fsRMS typical additive phase jitter
- High-speed CML outputs
- 2.5V ±5% VCC, 1.2/1.8V/2.5V ±5% VCCO power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) MLF package



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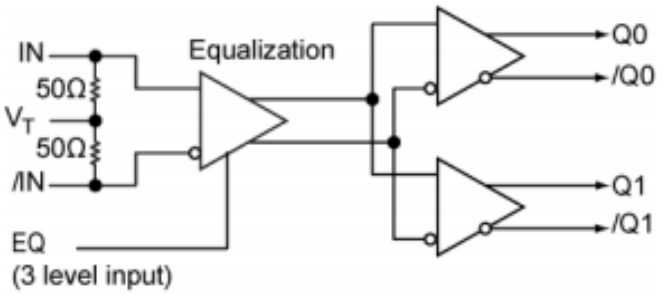
SY56011R

Online Datasheet

Product Tree

Features:

- 1.2V/1.8V/2.5V CML 1:2 Fanout Buffer
- Equalizes 9, 18, 27 inches of FR4
- Guaranteed AC performance over temperature and voltage:
  - DC-to >6.4Gbps Data throughput
  - DC-to >4.5GHz Clock throughput
  - <280ps propagation delay (IN-to-Q)
  - <15ps within-device skew
- <80ps rise/fall times
- Ultra-low jitter design
  - <1psRMS random jitter
- High-speed CML outputs
- 2.5V ±5% VCC, 1.2/1.8V/2.5V ±5% VCCO power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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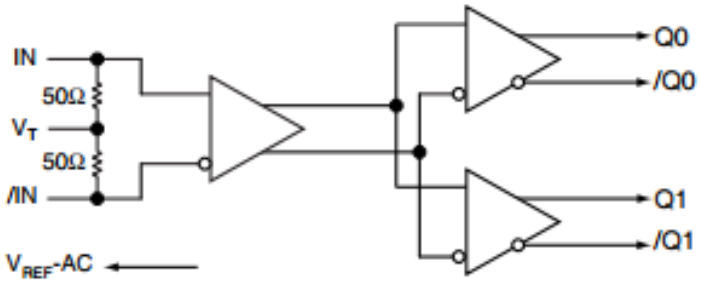
SY58011U

Online Datasheet

Product Tree

Features:

- Precision 1:2, 400mV CML fanout buffer
- Guaranteed AC performance over temperature/voltage:
  - >7GHz fMAX clock
  - <60ps tr/tf times
  - <250ps tpd
  - <15ps max. skew
- Low jitter performance:
  - <10psPP total jitter (clock)
- <1psRMS random jitter (data)
  - <10psPP deterministic jitter (data)
- Accepts an input signal as low as 100mV
- Unique input termination and VT pin accepts DCcoupled and AC-coupled differential inputs: LVPECL, LVDS, and CML
- 50Ω source terminated CML outputs
- Power supply 2.5V ±5% and 3.3V ±10%
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) MLF® package



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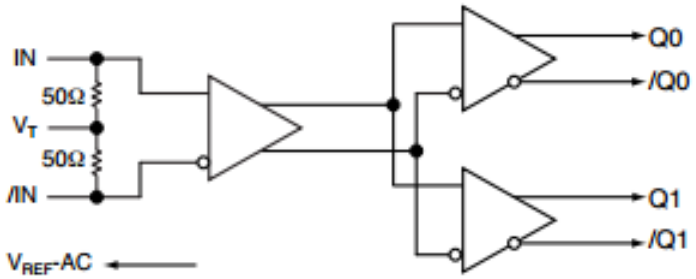
SY58012U

Online Datasheet

Product Tree

Features:

- Precision 1:2, 800mV LVPECL fanout buffer
- Guaranteed AC performance over temperature/ voltage:
- >5GHz fMAX (clock)
- <110ps tr/tf times
- <260ps tpd
- <15ps max skew
- Low jitter performance
- 60fs RMS phase jitter
- Accepts an input signal as low as 100mV
- Unique input termination and VT pin accepts DC and AC-coupled differential inputs: LVPECL, LVDS, and CML
- Outputs are 100k LVPECL compatible, 800mV swing
- Power supply 2.5V ±5% and 3.3V ±10%
- -40°C to +85°C temperature range
- Available in 16-pin (3mm x 3mm) QFN package



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SY58013U

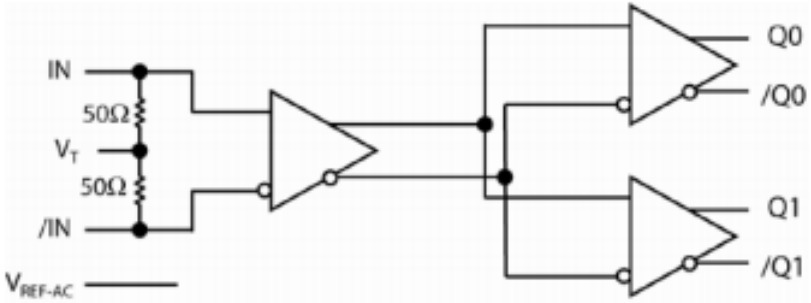
Online Datasheet

Product Tree

Features:

Precision 1:2, 400mV LVPECL fanout buffer

- Low phase jitter
- <55fsRMS (typical)
- Guaranteed AC performance over temperature and voltage:
  - >6GHz fMAX clock
  - <80ps tr/tf times
  - <250ps tpd
- <15ps maximum skew
- Accepts an input signal as low as 100mV. Unique input termination and VT pin accepts DC-coupled and AC-coupled differential inputs: LVPECL, LVDS, and CML
- 400mV LVPECL compatible outputs
- Power supply 2.5V ±5% and 3.eV ±10%
- -40°C to +85°C temperature range
- Available in 16-pin 3mm x 3mm QFN package



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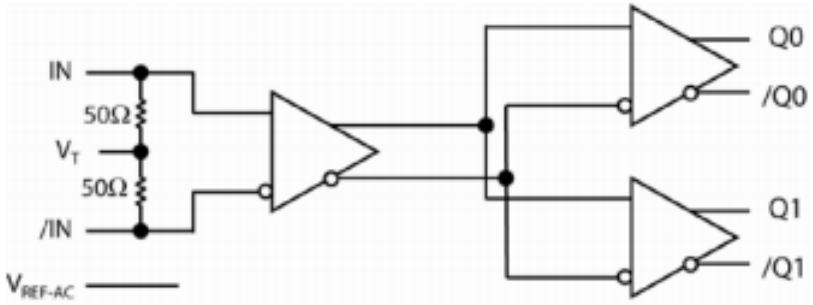
SY58606U

Online Datasheet

Product Tree

Features:

- Precision 1:2, 400mV CML fanout buffer
- Guaranteed AC performance over temperature and voltage:
  - DC-to >4.25Gbps throughput
  - <320ps propagation delay (IN-to-Q)
  - <15ps within-device skew
  - <85ps rise/fall times
- Fail Safe Input
  - Prevents outputs from oscillating when input is invalid
- Ultra-low jitter design
  - 100fsRMS typical additive jitter
- High-speed CML outputs
- 2.5V ±5% or 3.3V ±10% power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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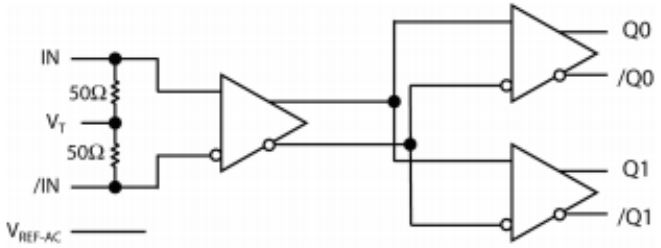
SY58607U

Online Datasheet

Product Tree

Features

- Precision 1:2, 800mV LVPECL fanout buffer
- Guaranteed AC performance over temperature and voltage:
- DC-to >3.2Gbps throughput
- <350ps propagation delay (IN-to-Q)
- <20ps within-device skew
- <110ps rise/fall times
- Fail Safe Input prevents outputs from oscillating when input is invalid
- Ultra-low jitter design
- 85fsRMS phase jitter
- High-speed LVPECL outputs
- 2.5V ±5% or 3.3V ±10% power supply operation
- Industrial temperature range: –40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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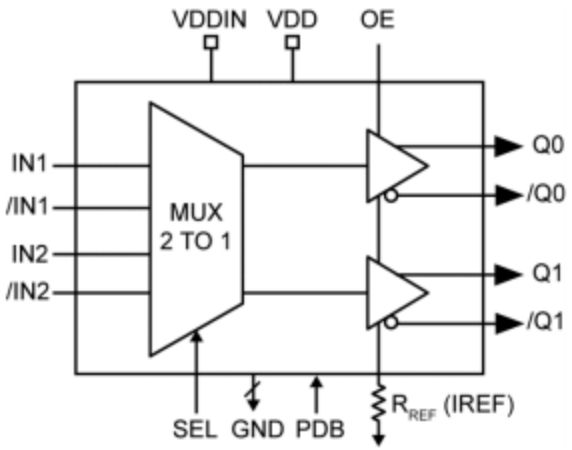
SY75572L

Online Datasheet

Product Tree

Features:

- Two differential pairs of LVDS or HCSL outputs
- Two pairs of differential inputs accept LVDS or HCSL logic levels
- 267MHz maximum frequency
- Ultra-low phase jitter:
  - 137fsRMS, 200MHz (12kHz–20MHz)
  - 153fsRMS, 156.25MHz (12kHz–20MHz)
  - 212fsRMS, 100MHz (12kHz–20MHz)
- <2ps total jitter (peak-to-peak), 200MHz (BER = 10-12)
- 50ps output-to-output skew
- 3.3V ±5% power supply operation
- -40°C to +85°C operating temperature
- Available in 16-pin (3mm × 3mm) QFN lead-free package



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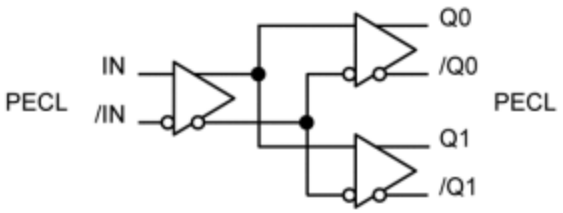
SY89311U

Online Datasheet

Product Tree

Features:

- 2.5V, 3.3V, and 5V power supply
- >Guaranteed AC parameters over temperature:
- fMAX >3.0GHz
- <20ps output-to-output skew
- <200ps tr/tf
- <300ps propagation delay
- 51fsRMS phase jitter (typical)
- 100K compatible I/O
- Wide temperature range: –40°C to +85°C
- Available in ultra-small 8-pin MLF® (2mm x 2mm) package



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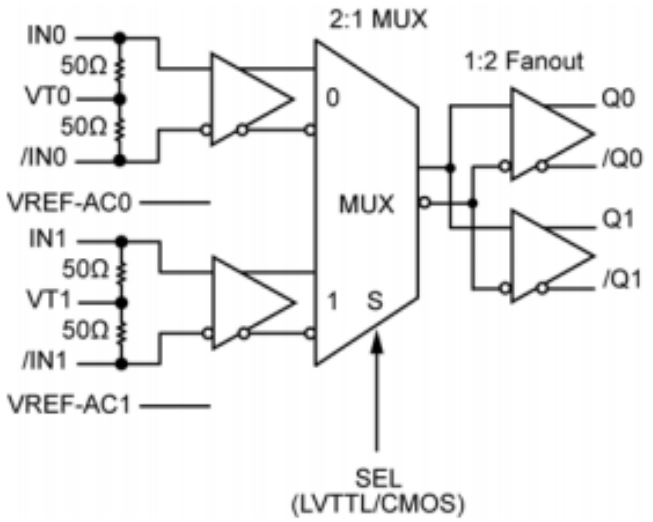
SY89473U

Online Datasheet

Product Tree

Features:

- Selects between two input channels and provides two copies of the selected output
- Guaranteed AC performance over temperature and supply voltage:
  - DC to 2.5Gbps data throughput
  - DC to 2.5GHz fMAX (clock)
  - <500ps In-to-Out tpd
  - <190ps tr/tf
  - <20ps Output-to-output skew
- Unique patented input isolation design minimizes crosstalk
- Ultra-low Jitter Design:
  - <1psRMS random jitter
  - <1psRMS cycle-to-cycle jitter
  - <10psPP total jitter (clock)
  - <0.7psRMS crosstalk induced jitter
- Unique patent-pending input termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- 800mV (100K) LVPECL output swing
- 2.5V ±5% or 3.3V ±10% supply voltage
- -40°C to +85°C industrial temperature range
- Available in 24-pin (4mm x 4mm) QFN package



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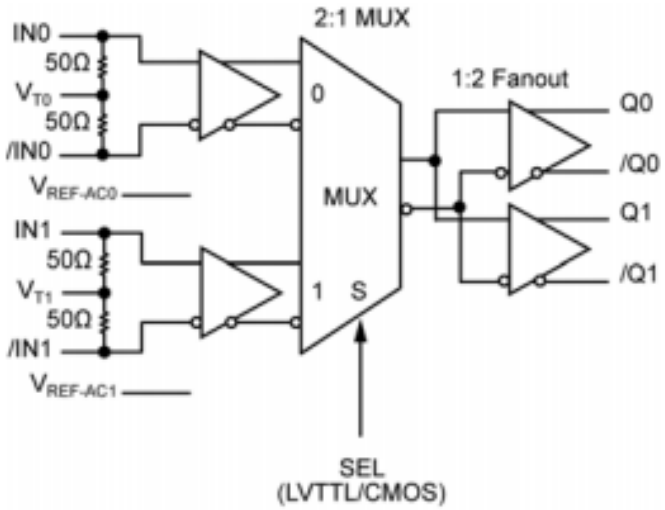
SY89474U

Online Datasheet

Product Tree

Features:

- Selects between two input channels and provides two copies of the selected input
- Guaranteed AC performance over temperature and supply voltage:
  - DC to 2.5Gbps data throughput
  - DC to 2.5GHz fMAX (clock)
  - <470ps In-to-Out tpd
  - <150ps tr/tf
  - <20ps output-to-output skew
- Unique, patent-pending input isolation design minimizes crosstalk
- Ultra-low jitter design:
  - <1psRMS random jitter
- <10psPP deterministic jitter
- <1psRMS cycle-to-cycle jitter
- <10psPP total jitter (clock)
- <0.7psRMS crosstalk induced jitter
- Unique patent-pending input termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- 325mV LVDS output swing
- 2.5V ±5% supply voltage
- -40°C to +85°C industrial temperature range
- Available in 24-pin (4mm x 4mm) QFN package



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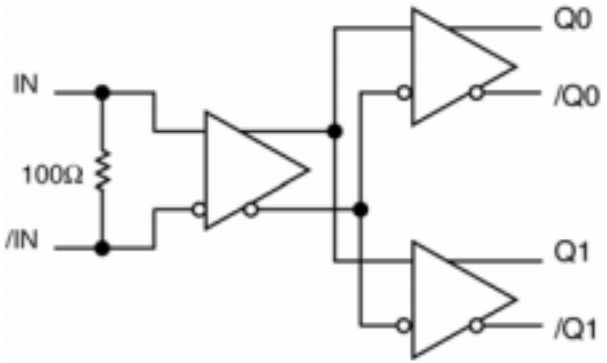
SY89835U

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and voltage:
  - DC-to >3.2Gbps throughput
  - 210ps typical propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <150ps rise/fall times
- Fail Safe Input
  - Prevents outputs from oscillating
- Ultra-low jitter design
  - <1psRMS cycle-to-cycle jitter
  - <10psPP total jitter
  - <1psRMS random jitter
  - <10psPP deterministic jitter
- High-speed LVDS outputs
- 2.5V ±5% power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 8-pin (2mm x 2mm) MLF® package



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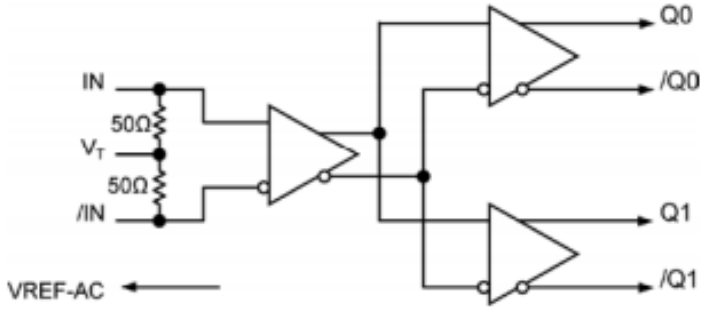
SY89851U

Online Datasheet

Product Tree

Features:

- Precision 1:2, 800mV LVPECL fanout buffer
- Low power consumption: 80mW typ. (2.5V)
- Guaranteed AC performance over temperature and voltage:
  - – DC to >3GHz clock throughput
  - – <340ps propagation delay
  - – <180ps rise/fall time
  - – <20ps output-to-output skew
- Ultra-low jitter design:
  - – <1psRMS random jitter
  - – <10psPP deterministic jitter
  - – <10ps PP total jitter (clock)
- Unique, patented input termination and VT pin accepts DC- and AC-coupled inputs (CML, LVPECL, LVDS)
- 100K LVPECL-compatible outputs
- Power supply 2.5V ±5% or 3.3V ±10%
- –40°C to +85°C industrial temperature range
- Available in 16-pin (3mm x 3mm) MLF® package



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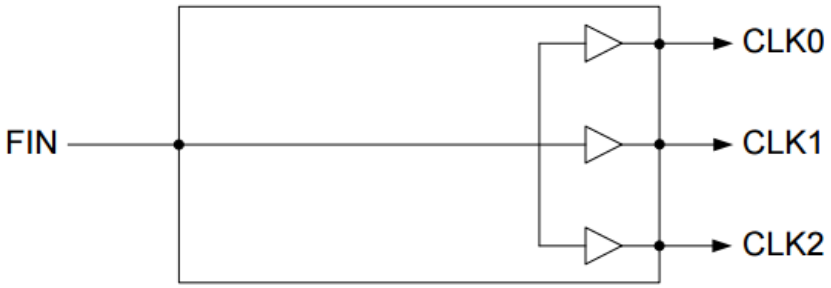
PL133-37

Online Datasheet

Product Tree

Features:

- 3 LVCMOS Outputs
- 12mA Output Drive Strength
- Input/Output Frequency: Reference Clock: 1MHz to 150MHz
- Supports LVCMOS or Sine Wave Input Clock
- Very Low Jitter and Phase Noise
- Low Current Consumption
- Single 1.8V, 2.5V or 3.3V ±10% operation
- Operating Temperature Range:
  - 0°C to 70°C (Commercial)
  - -40°C to 85°C (Industrial)
- Available in SOT23-6L GREEN/RoHS Compliant Packages



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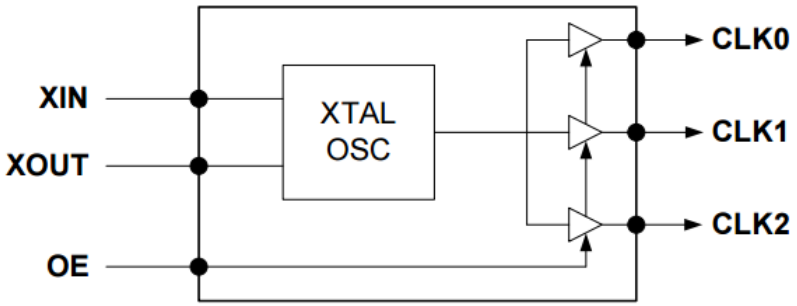
PL135-37

Online Datasheet

Product Tree

Features:

- Advanced Oscillator Design for Wide Frequency Coverage
- 3 LVCMOS Outputs
- 12mA Output Drive Strength
- Input/Output Frequency:
  - Fundamental Crystal: 10MHz to 40MHz
- Very Low Jitter and Phase Noise
- Low Current Consumption
- Single 1.62V to 3.63V Power Supply
- Available in SOP-8L GREEN/RoHS Compliant Package



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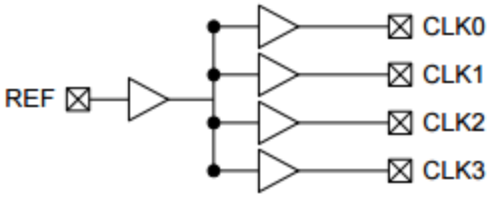
PL133-47

Online Datasheet

Product Tree

Features:

- 1:4 LVCMOS output fanout buffer for DC to150MHz
- Low Additive Phase Jitter of 60fs RMS
- 8mA Output Drive Strength
- Low power consumption for portable applications
- Low input-output delay
- Output-Output skew less than 250ps
- 2.5V to 3.3V ±10% operation
- Operating temperature range from -40°C to 85°C
- Available in 8-Pin SOP GREEN/RoHS package



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PL138-48

Online Datasheet

Product Tree

Features:

Four differential 2.5V/3.3V LVPECL output pairs

Output Frequency: ≤1GHz

Two selectable differential input pairs

Translates any standard single-ended or differential input format to LVPECL output. It can accept the following standard input formats and more:

LVPECL, LVCMOS, LVDS, HCSL, SSTL, LVHSTL, CML

Output Skew: 25ps (typ.)

Part-to-part skew: 140ps (typ.)

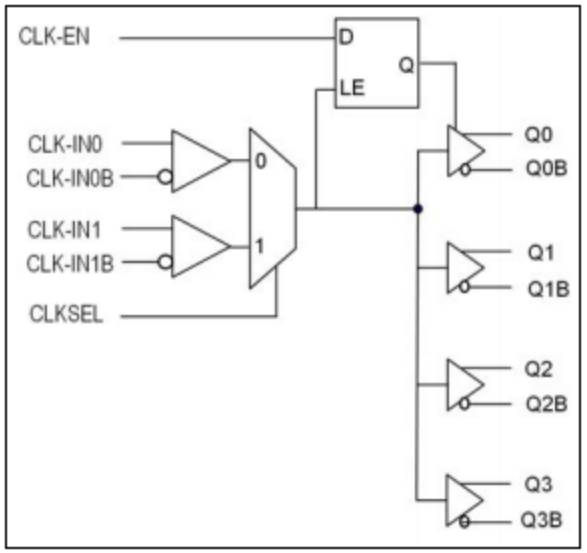
Propagation delay: 1.5ns (typ.)

Additive Jitter: <100fs (typ.)

Operating Supply Voltage: 2.375V ~ 3.63V

Operating temperature range from -40°C to 85°C

Package availability: 20-pin TSSOP



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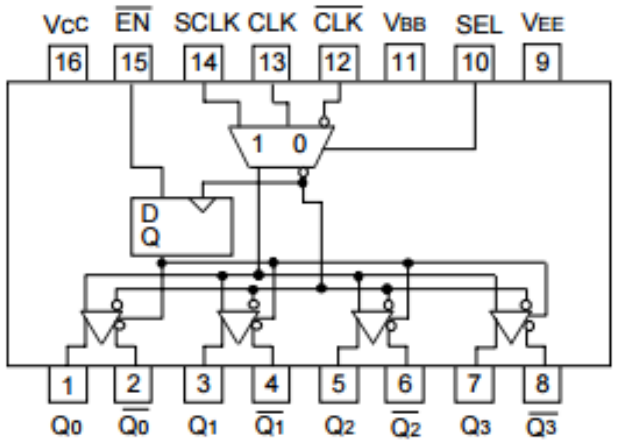
SY100EL15L

Online Datasheet

Product Tree

Features:

- 3.3V power supply
- 50ps output-to-output skew
- Low power
- Synchronous enable/disable
- Multiplexed clock input
- 75KΩ internal input pull-down resistors
- Available in 16-pin SOIC package



SOIC
TOP VIEW

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SY100EL16V

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 250ps propagation delay
- High bandwidth output transitions
- Internal 75KΩ input pull-down resistors
- Replaces SY10/100EL16
- Improved output waveform characteristics
- Available in 8-pin (3mm x 3mm) MSOP and SOIC package

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SY100EP15V

Online Datasheet

Product Tree

Features:

- High-speed 1:4 PECL/ECL fanout buffer
- 2:1 multiplexer input
- Guaranteed AC parameters over temp/voltage:
  - >2.5GHz fMAX (toggle)
  - <225ps rise/fall times
  - <25ps within device skew
  - <425ps propagation delay (CLK-to-Q)
- Low jitter design:
  - <1psRMS cycle-to-cycle jitter
  - <20psPP total jitter
- Flexible power supply: 3.3V/5V
- Wide operating temperature range: –40°C to +85°C
- VBB reference for AC-coupled or single-ended applications
- Output enable/disable function
- 100K PECL/ECL compatible logic
- Input accepts PECL/LVPECL/ECL/HSTL logic levels
- Available in a 16-pin TSSOP package

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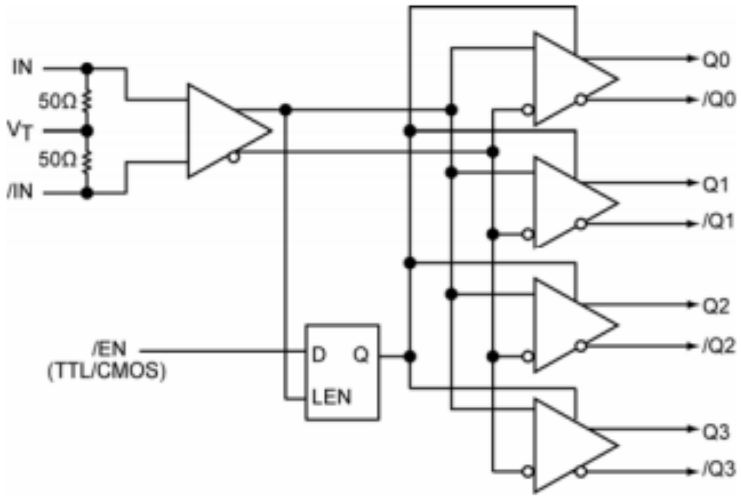
SY54020A

Online Datasheet

Product Tree

Features

- 1.2V/1.8V/2.5V CML 1:4 Fanout Buffer
- Active-low Enable (/EN) input to disable the outputs
- Guaranteed AC performance over temperature and voltage:
  - DC-to > 3.2Gbps Data throughput
  - DC-to > 3.2GHz Clock throughput
  - <320 ps propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <100 ps rise/fall times
- Ultra-low jitter design
  - <1ps$_{RMS}$ cycle-to-cycle jitter
- High-speed CML outputs
- 2.5V ±5% V_{CC} , 1.2/1.8V/2.5V ±5% V_{CCO} power supply operation
- Industrial temperature range: –40°C to +85°C
- Available in 16-pin (3mm x 3mm) MLF® package



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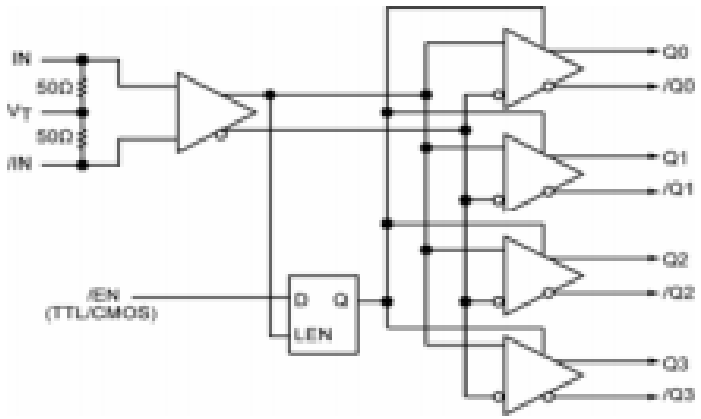
SY54020R

Online Datasheet

Product Tree

Features:

- 1.2V/1.8V/2.5V CML 1:4 Fanout Buffer with FSI
- Active-low Enable (/EN) input to disable the outputs
- Guaranteed AC performance over temperature and voltage:
  - DC-to- >3.2Gbps throughput
  - DC-to >2.5GHz Clock throughput
  - <400ps propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <100ps rise/fall times
- Ultra-low jitter design
  - <1psRMS cycle-to-cycle jitter
- High-speed CML outputs
- 2.5V ±5% VCC, 1.2V/1.8V/2.5V ±5% VCCOpower supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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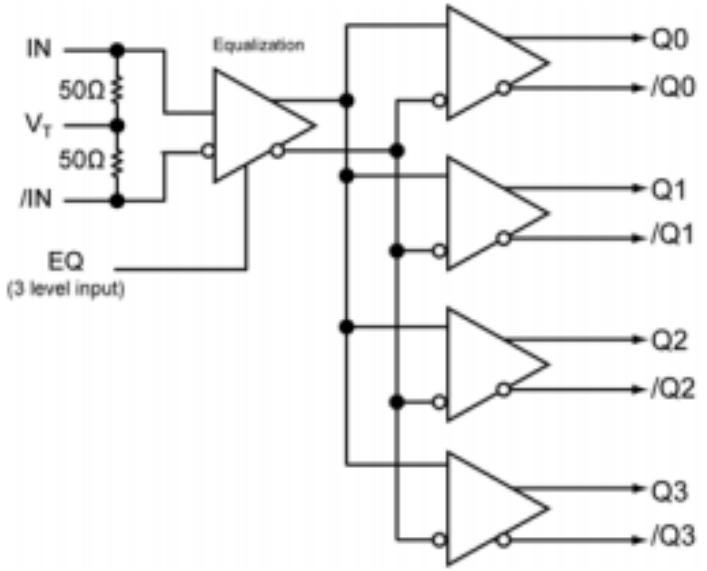
SY56020R

Online Datasheet

Product Tree

Features:

- 1.2V/1.8V/2.5V CML 1:4 Fanout Buffer
- Equalizes 9, 18, 27 inches of FR4
- Guaranteed AC performance over temperature and voltage:
  - DC-to >6.4Gbps Data throughput
  - DC-to >4.5GHz Clock throughput
  - <280 ps propagation delay (IN-to-Q)
  - <15ps within-device skew
- <90ps rise/fall times
- Ultra-low jitter design
  - <1psRMS random jitter
- High-speed CML outputs
- 2.5V ±5% VCC , 1.2/1.8V/2.5V ±5% VCCO power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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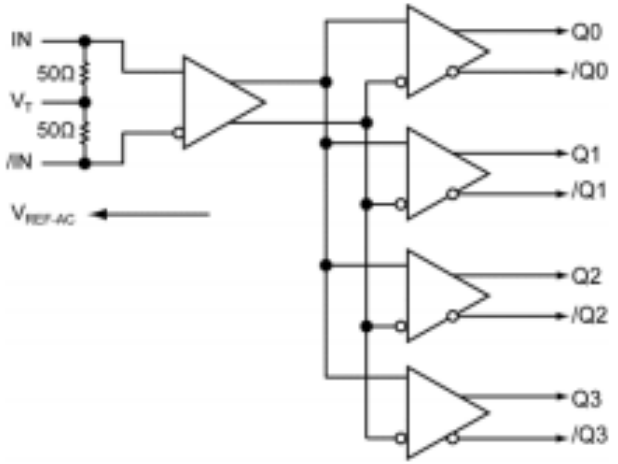
SY58020U

Online Datasheet

Product Tree

Features:

- Precision 1:4, 400mV CML fanout buffer
- Guaranteed AC performance over temperature/voltage:
  - >6GHz fMAX clock
  - <60ps tr/tf times
  - <250ps tpd
  - <15ps max. skew
- Low jitter performance:
  - <10pspp total jitter (clock)
- <1psrms random jitter (data)
- <10pspp deterministic jitter (data)
- Accepts an input signal as low as 100mV
- Unique input termination and VTpin accepts DC-coupled and AC-coupled differential inputs: LVPECL, LVDS, and CML
- 50Ω source terminated CML outputs
- Power supply 2.5V ±5% and 3.3V ±10%
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) MLF® package



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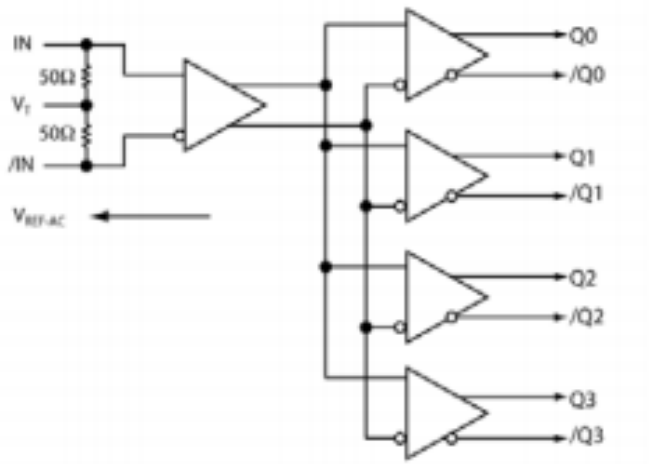
SY58021U

Online Datasheet

Product Tree

Features:

- Precision 1:4 LVPECL fanout buffer
- Low jitter performance:
  - 70fsRMS phase jitter (typical)
- Accepts an input signal as low as 100mV
- Unique input termination and VT pin accepts DC-coupled and AC-coupled differential inputs: LVPECL, LVDS, and CML
- 100k LVPECL-compatible 800mV swing output
- Power supply 2.5V ±5% and 3.3V ±10%
- -40°C to +85°C temperature range
- Available in 16-pin (3mm x 3mm) QFN package



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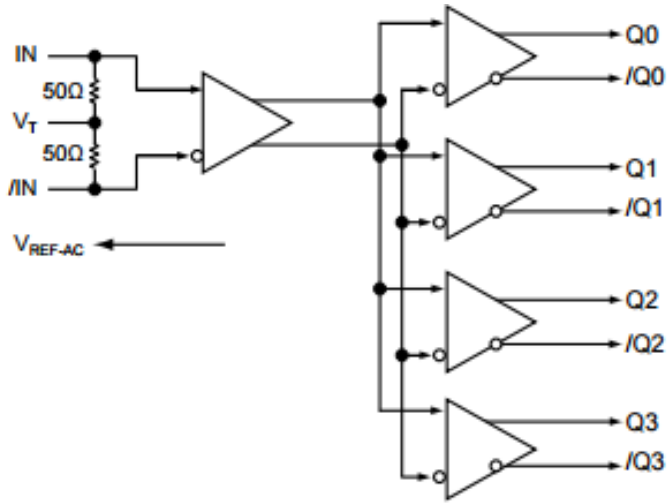
SY58022U

Online Datasheet

Product Tree

Features:

- Precision 1:4, 400mV LVPECL fanout buffer
- Guaranteed AC performance over temperature and voltage:
  - > 5.5GHz fMAX clock
  - <80ps tr/tf times
  - <250ps (VIN ≥300mV) tpd
  - <15ps max. skew
- Low jitter performance:
  - 60fs RMS phase jitter
- Accepts an input signal as low as 100mV
- Unique input termination and VT pin accepts DC- and AC-coupled differential inputs: LVPECL, LVDS and CML
- 400mV LVPECL compatible outputs
- Power supply 2.5V ±5% and 3.3V ±10%
- -40°C to +85°C temperature range
- Available in 16-pin (3mm x 3mm) QFN package



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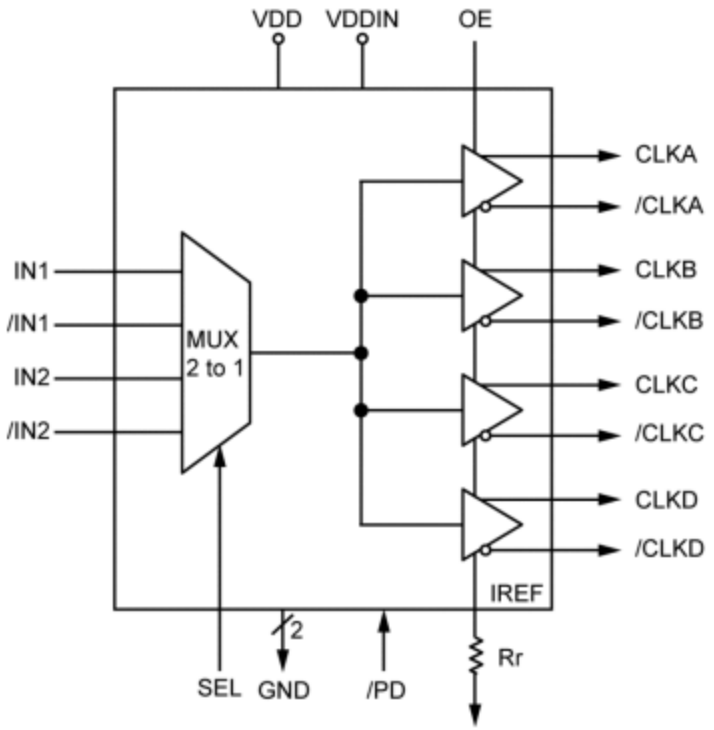
SY75576L

Online Datasheet

Product Tree

Features

- Four differential pairs of LVDS or HCSL outputs
- Two pairs of differential inputs accept LVDS or HCSL logic levels
- 267MHz max HCSL frequency
- 100MHz max LVDS frequency
- Ultra low phase jitter:
  - 137fs_{rms}, 200MHz (12kHz–20MHz)
  - 153fs_{rms}, 156.25MHz (12kHz–20MHz)
  - 212fs_{rms}, 100MHz (12kHz–20MHz)
- <2ps Total_Jitter$_{pk-pk}$, 200MHz (BER = 10^{-12})
- 50ps output-to-output skew
- 3.3V ±5% power supply operation
- –40°C to +85°C operating temperature
- Available in 20-pin TSSOP lead-free package



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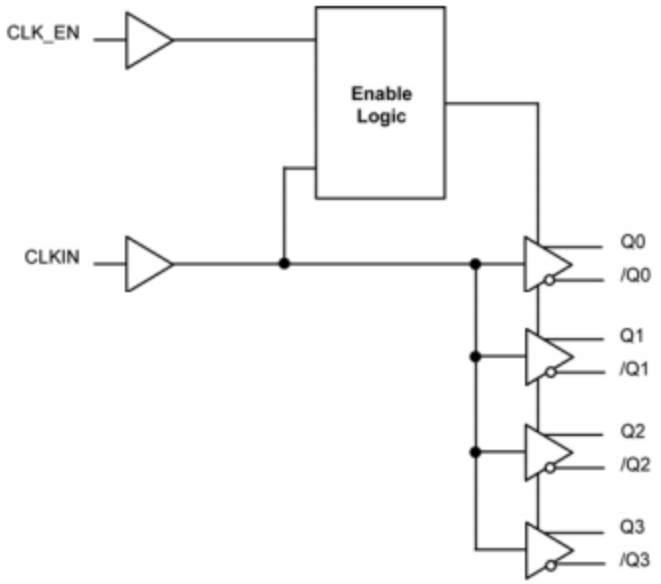
SY89645L

Online Datasheet

Product Tree

Features:

- Four identical LVDS outputs
- CLKIN accepts LVCMOS or LVTTL input levels
- Maximum output frequency: 650MHz
- Translates LVCMOS/LVTTL input signals to LVDS levels
- <40ps output-to-output skew
- <3ns propagation delay
- <400ps rise/fall times
- 3.3V ±5% operating supply
- Industrial temperature range: -40°C to +85°C
- Available in 20-pin TSSOP



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SY89830U

Online Datasheet

Product Tree

Features:

- Guaranteed AC parameters over temp/voltage:
  - >2.5GHz fMAX
  - <25ps within-device skew
  - <225ps tr/tf time
  - <450ps prop delay
- Low jitter design:
  - <1psRMS cycle-to-cycle jitter
- <15psPP total jitter
- 2:1 Differential MUX input
- Flexible supply voltage: 2.5V/3.3V/5V
- Wide operating temperature range: -40°C to +85°C
- 100K ECL compatible outputs
- Inputs accept PECL/LVPECL/ECL/HSTL logic levels
- Available in a 16-pin TSSOP package

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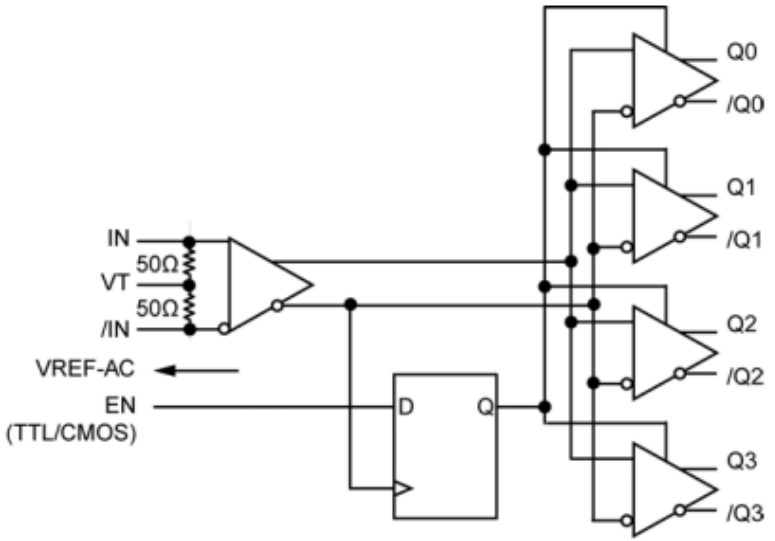
SY89831U

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and voltage:
  - DC-to-2.5GHz throughput (typical)
  - 350ps propagation delay (IN-to-Q) (typical)
  - 5ps within-device skew (typical)
  - 150ps rise/fall time (typical)
- Ultra-low jitter design:
  - 62fsRMS phase jitter (typical)
- Unique patent-pending input termination and VT pin accepts DC- and AC-coupled differential inputs
- 800mV, 100K LVPECL typical output swing
- Power supply 2.5V ±5% or 3.3V ±10%
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) MLF® package



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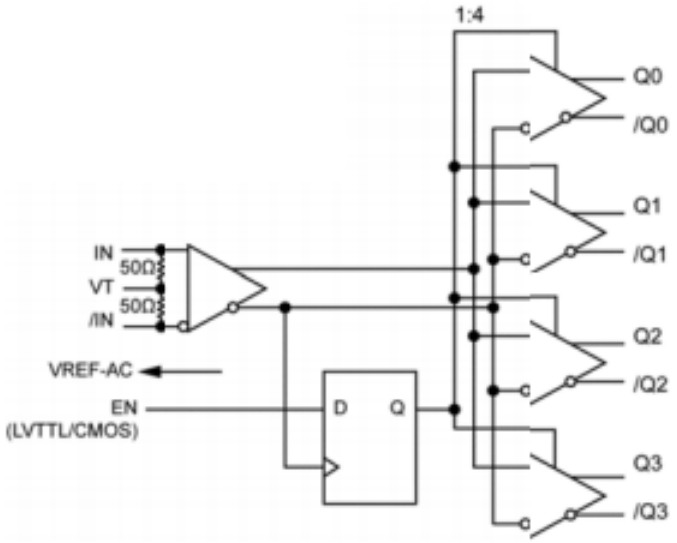
SY89832U

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and voltage:
  - DC-to >2.0GHz throughput
  - <570ps propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <200ps rise/fall time
- Ultra-low jitter design:
  - 81fsRMS phase jitter
- Unique, patent-pending input termination and VT pin accepts DC- and AC-coupled inputs
- High-speed LVDS outputs
- 2.5V voltage supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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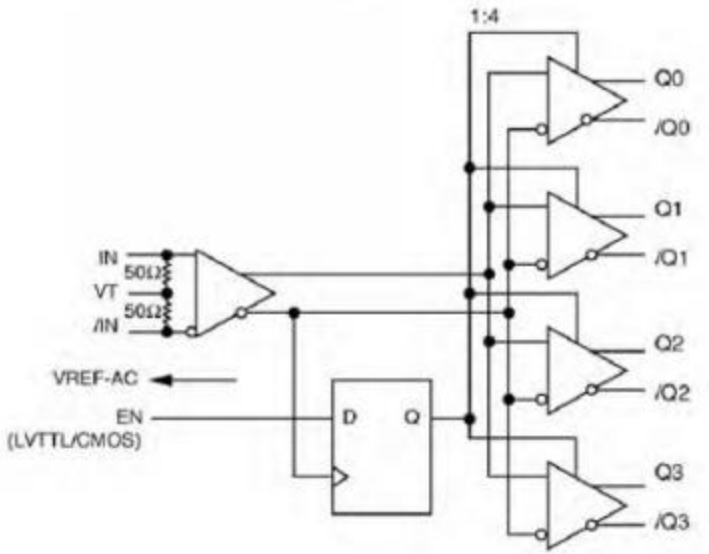
SY89833AL

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and voltage:
  - DC-to >2.0GHz throughput
  - <470ps propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <190ps rise/fall time
- Improved ultra-low jitter design:
  - 195fsRMS phase jitter (typ.)
- Unique input termination and VT pin accepts DC- and AC-coupled inputs
- High-speed LVDS outputs
- 3.3V power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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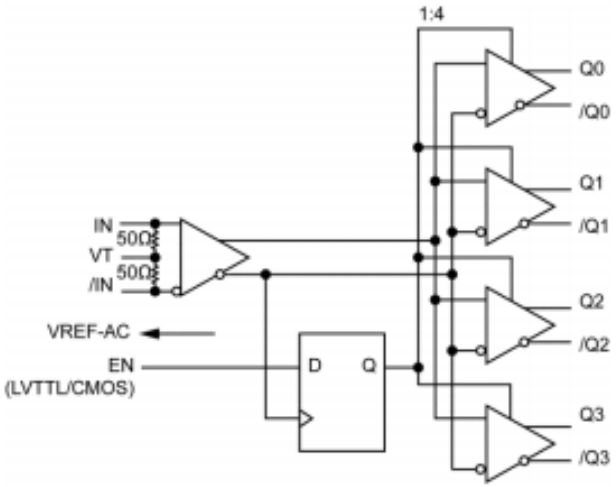
SY89833L

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and voltage:
  - DC-to >2GHz throughput
  - <600ps propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <190ps rise/fall times
- Ultra-low jitter design
  - 98fsRMS phase jitter
- Unique input termination and VTpin accepts DC and AC-coupled inputs
- High-speed LVDS outputs
- 3.3V power supply operation
- Industrial temperature range: -40°C to +85°C
- Available in 16-pin (3mm x 3mm) QFN package



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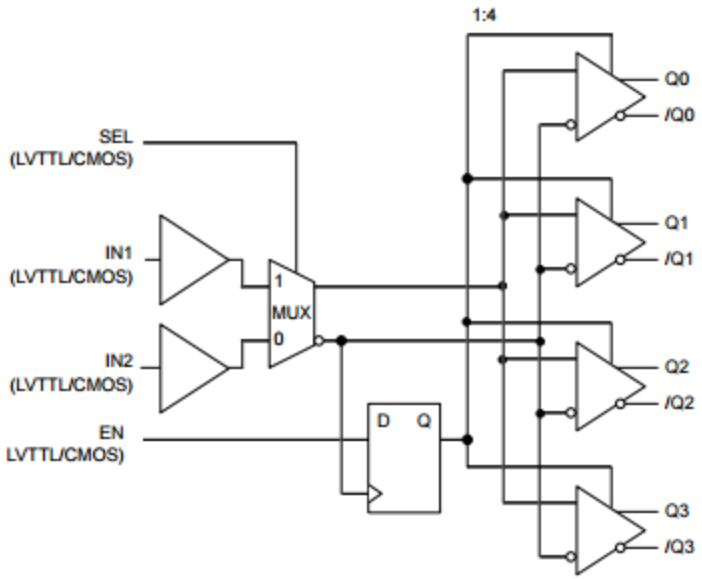
SY89834U

Online Datasheet

Product Tree

Features:

- Selects between two LVTTL/CMOS inputs and provides 4 LVPECL output copies
- Guaranteed AC performance over temperature and voltage:
  - DC-to >1.0GHz throughput
  - <500ps propagation delay (IN-to-Q)
  - <20ps within-device skew
  - <225ps rise/fall time
- Ultra-low jitter design:
  - <1psRMS cycle-to-cycle jitter
- <1psRMS random jitter
- <10psPP deterministic jitter
- <10psPP total jitter (clock)
- Low voltage 2.5V and 3.3V supply operation
- 100K LVPECL outputs
- Industrial temperature range: -40°C to +85°C
- Includes a 2:1 MUX select input
- Accepts single-ended TTL/CMOS inputs and provides four LVPECL outputs
- Available in 16-pin (3mm x 3mm) MLF® package



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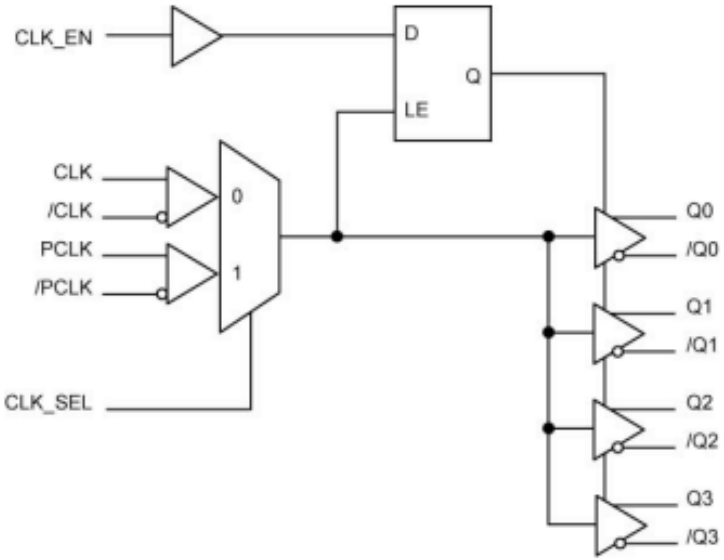
SY898533L

Online Datasheet

Product Tree

Features:

- Provides four differential 3.3V LVPECL copies
- Selects between differential CLK, /CLK or LVPECL clock inputs
- CLK, /CLK pair accepts LVDS, LVPECL, LVHSTL, SSTL, HCSL input levels
- PCLK, /PCLK pair accepts LVPECL, CML, SSTL input levels
- Guaranteed AC performance over temperature and supply voltage:
  - 650MHz Maximum output frequency
- <1.4ns Propagation delay (In-to-Q)
- <30ps Output skew
- <150ps Part-to-part skew
- Additive phase jitter, RMS: 0.06ps (typical)
- 3.3V ±5% supply voltage
- 0°C to +70°C temperature operating range
- Available in a 20-pin TSSOP package



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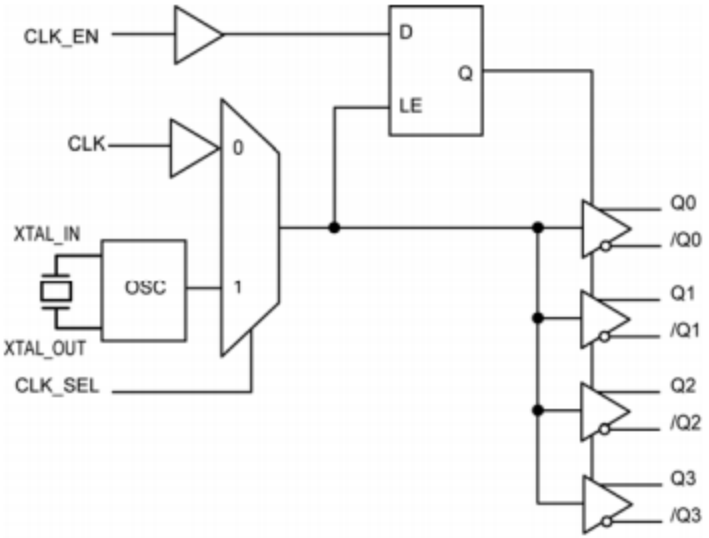
SY898535XL

Online Datasheet

Product Tree

Features:

- Provides four differential 3.3V LVPECL copies
- Selects between single-ended CLK or crystal inputs
- CLK accepts LVCMOS or LVTTL input levels
- Guaranteed AC performance over temperature and supply voltage:
  - 235MHz Maximum output frequency
  - <1.65ns Propagation delay (In-to-Q)
  - <30ps Output skew
  - <200ps Part-to-part skew
  - Additive phase jitter, RMS: 0.09ps (typical)
- 3.3V ±5% supply voltage
- –40°C to +85°C industrial temperature operating range
- Available in a 20-pin TSSOP package



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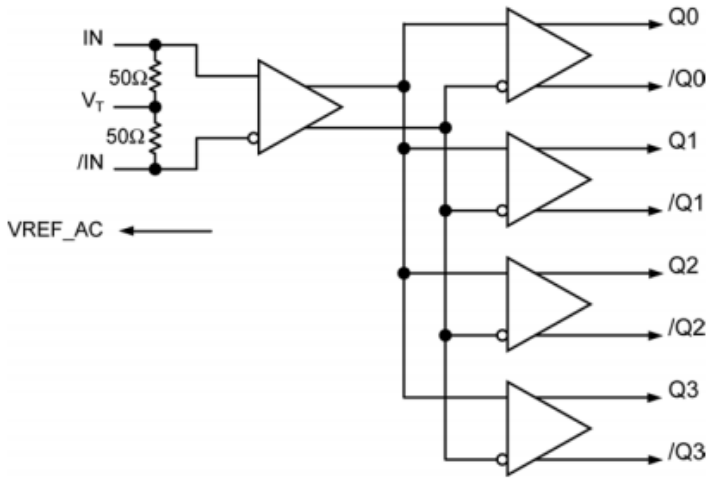
SY89854U

Online Datasheet

Product Tree

Features:

- Precision 1:4, LVPECL fanout buffer
- Low power: 137mW (2.5V typ)
- Guaranteed AC performance over temperature and supply voltage:
  - DC- to >2GHz Clock fMAX
  - <340ps tpd
  - <180ps tr/tf time
  - <20ps max. skew
- Ultra-low jitter design:
  - <1psrms random jitter
  - <10pspp deterministic jitter
  - <10pspp total jitter (clock)
- Unique patent pending input termination and VT pin accepts DC-coupled and AC-coupled inputs (CML, PECL, LVDS)
- Typical 800mV (100k) LVPECL output swing
- Power supply 2.5V ±5% or 3.3V ±10%
- Industrial temperature range -40°C to +85°C
- Available in ultra-small (3mm x 3mm) 16-pin QFN package



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Features

- 3.3V and 5V power supply options
- 70fs$_{RMS}$ typical additive phase jitter
- Typical 30ps output-to-output skew
- Max. 50ps output-to-output skew
- Synchronous enable/disable
- Multiplexed clock input
- 75kΩ internal input pull-down resistors
- Available in 20-pin SOIC package

SY100EP14U

Online Datasheet

Product Tree

Features:

- Guaranteed AC parameters over temp/voltage:
  - >2GHz fMAX
  - <25ps within-device skew
  - <275ps tr/tf time
  - <525ps prop delay
- 2:1 Differential MUX input
- Flexible supply voltage: 2.5V/3.3V/5V
- Wide operating temperature range: -40°C to +85°C
- VBB reference for single-ended or AC-coupled PECL inputs
- 100K ECL compatible outputs
- Inputs accept PECL/LVPECL/ECL/HSTL logic
- 75k internal input pull-down resistors
- Available in a 20-Pin TSSOP package

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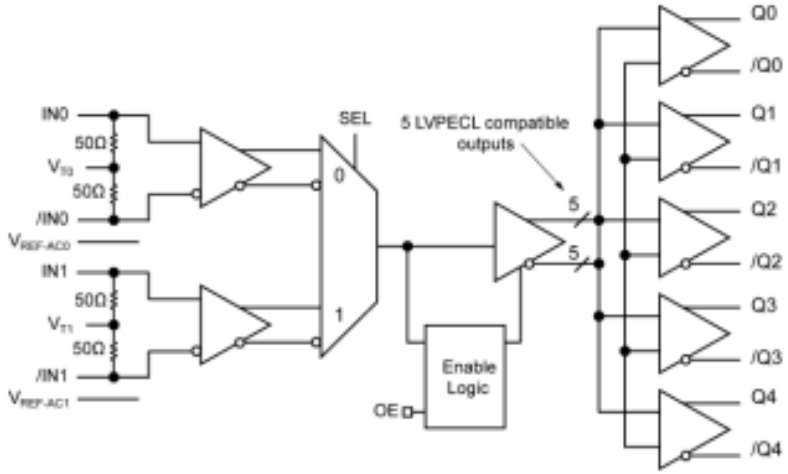
SY89846U

Online Datasheet

Product Tree

Features:

- Selects between two inputs, and provides 5 precision LVPECL copies
- Fail-Safe Input
  - Prevents outputs from oscillating when input is invalid
- Guaranteed AC performance over temperature and supply voltage:
  - DC-to >1.5GHz throughput
  - <900ps Propagation Delay (IN-to-Q)
  - <250ps Rise/Fall times
- Ultra-low jitter design:
  - 150fsRMS phase jitter (typ.)
  - <0.7psRMS MUX crosstalk induced jitter
- Unique, patented MUX input isolation design minimizes adjacent channel crosstalk
- Unique patented internal termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- Wide input voltage range. VCC to GND
- 2.5V ±5% or 3.3 ±10% supply voltage
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



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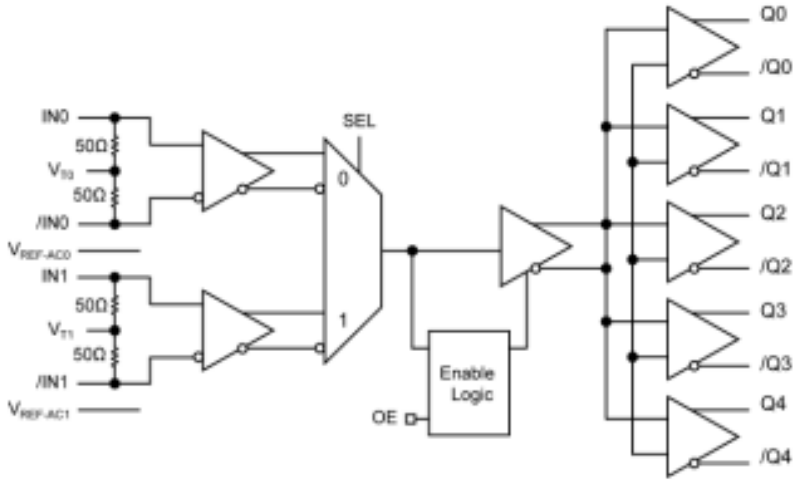
SY89847U

Online Datasheet

Product Tree

Features:

- Selects between two sources, and provides 5 precision LVDS copies
- Fail-Safe Input
  - Prevents outputs from oscillating when input is invalid
- Guaranteed AC performance over temperature and supply voltage:
  - DC-to >1.5GHz throughput
  - <1000ps Propagation Delay (IN-to-Q)
  - <210ps Rise/Fall times
- Ultra-low jitter design:
  - 150fsRMS phase jitter (typ.)
  - <0.7psRMS MUX crosstalk induced jitter
- Unique, patented MUX input isolation design minimizes adjacent channel crosstalk
- Unique, patented internal termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- Wide input voltage range VCC to GND
- 2.5V ±5% supply voltage
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



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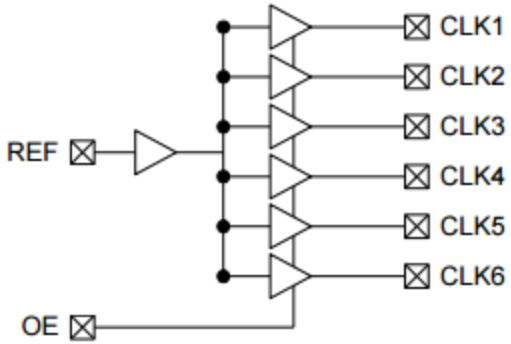
PL133-67

Online Datasheet

Product Tree

Features:

- 1:6 LVCMOS output fanout buffer for DC to150MHz
- 8mA Output Drive Strength
- Low power consumption for portable applications
- Low input-output delay
- Output-Output skew less than 250ps
- Low Additive Phase Jitter of 60fs RMS
- 2.5V to 3.3V ±10% operation
- Operating temperature range from -40°C to 85°C
- Available in 16-Pin SOP GREEN/RoHS package



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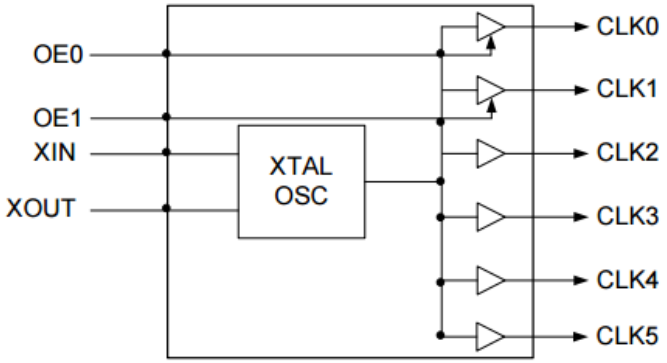
PL135-67

Online Datasheet

Product Tree

Features:

- Advanced Oscillator Design for Wide Frequency Coverage
- 6 LVCMOS Outputs with 2 Output Enable Pins
- 8mA Output Drive Strength
- Input/Output Frequency:
  - Fundamental Crystal: 10MHz to 40MHz
- Very Low Jitter and Phase Noise
- Low Current Consumption
- Single 1.62V to 3.63V Power Supply
- Available in QFN-16L and TSSOP-16L GREEN/RoHS Compliant Packages



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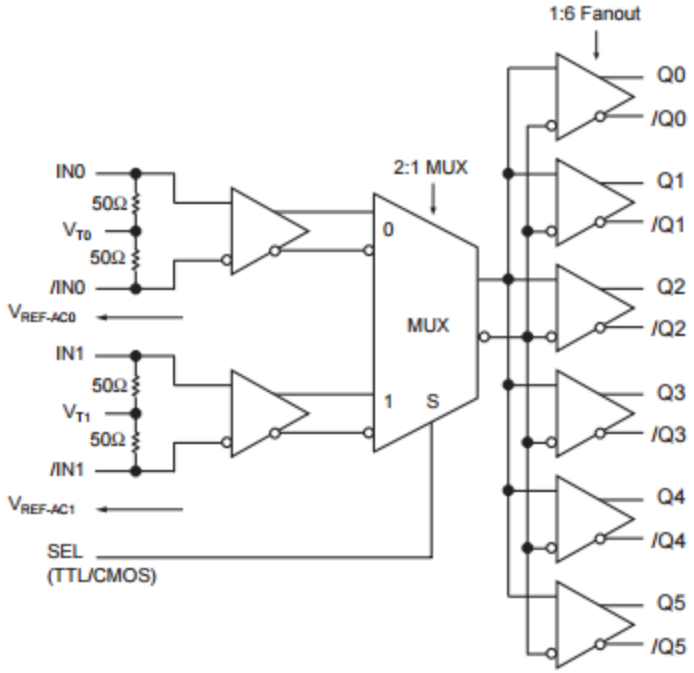
SY58034U

Online Datasheet

Product Tree

Features:

- Provides six ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >6GHz
  - <290ps IN-to-OUT tpd
  - <60ps tr/tf times
  - <20ps skew (output-to-output)
- Unique input isolation design minimizes crosstalk
- Ultra low-jitter design:
  - 60fs RMS phase jitter
  - <0.7psRMS crosstalk-induced jitter
- Low supply voltage operation: 2.5V and 3.3V
- Unique input termination and VT pin accepts DCcoupled and AC-coupled inputs (CML, PECL, LVDS)
- Internal 50ý output source termination
- 400mV CML output swing
- -40°C to +85°C temperature range
- Available in 32-pin (5mm x 5mm) QFN package



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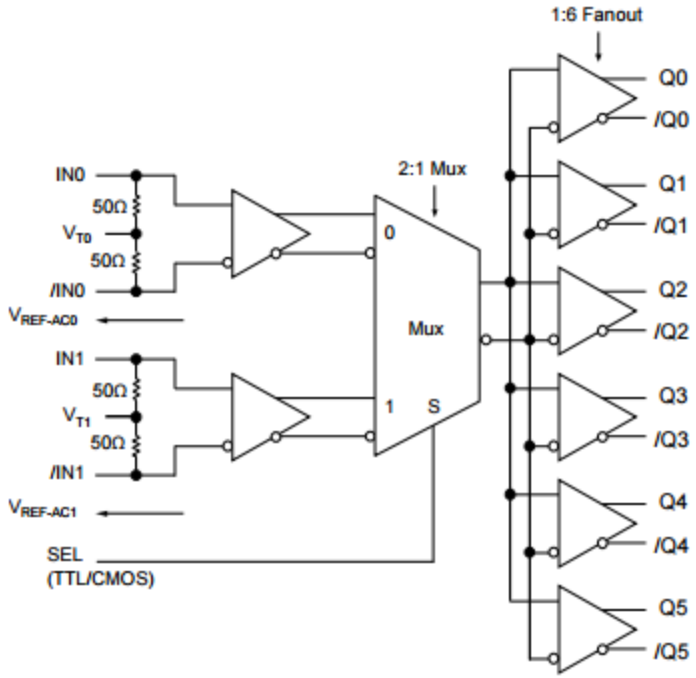
SY58035U

Online Datasheet

Product Tree

Features:

- Provides six ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >4.5GHz
  - <320ps IN-to-OUT tpd
  - <110ps tr/tf times
  - <20ps skew (output-to-output)
- Ultra-low jitter design:
- 50fsRMS phase jitter (typ)
- Low supply voltage operation: 2.5V and 3.3V
- Unique input termination and VTpin accepts DCcoupled and AC-coupled inputs (CML, PECL, LVDS)
- Unique input isolation design minimizes crosstalk
- 100K LVPECL compatible output swing
- -40°C to +85°C temperature range
- Available in 32-pin (5mm x 5mm) MLF® package



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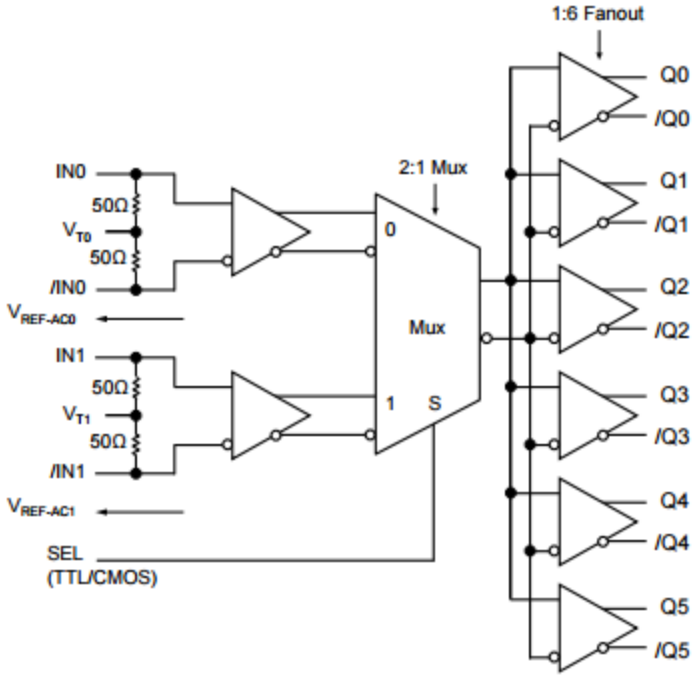
SY58036U

Online Datasheet

Product Tree

Features:

- Provides six ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >6GHz
  - <300ps IN-to-OUT tpd
  - <80ps tr / tf times
  - <20ps skew (output-to-output)
- Ultra-low jitter design:
  - 50fsRMS phase jitter (typ)
- Low supply voltage operation: 2.5V and 3.3V
- Unique input termination and VT pin accepts DC-coupled and AC-coupled inputs (CML, PECL, LVDS)
- Unique input isolation design minimizes crosstalk
- 400mV LVPECL (100K compatible) output swing
- -40°C to +85°C temperature range
- Available in 32-pin (5mm x 5mm) MLF® package



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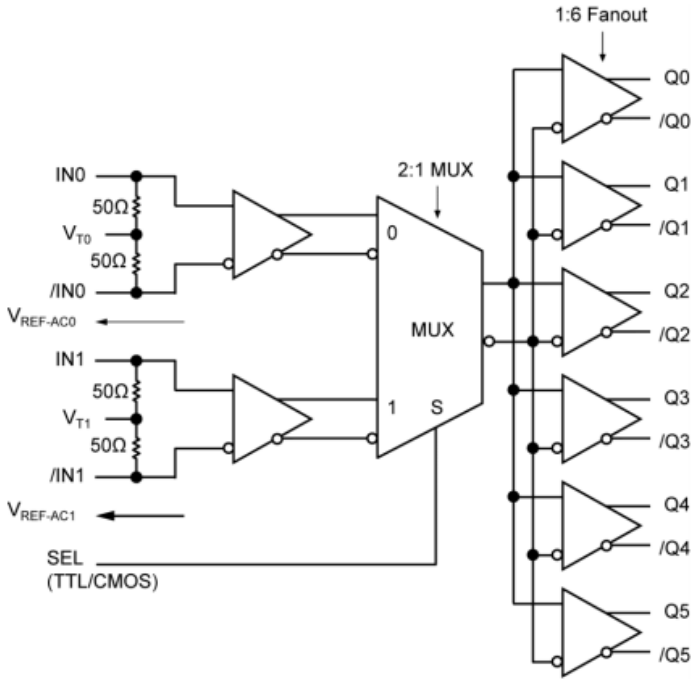
SY89856U

Online Datasheet

Product Tree

Features:

- 6 ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Low power: 225mW typical (2.5V)
- 2.5V to 3.3V supply voltage
- Unique input isolation design minimizes crosstalk
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >2.0GHz
  - <400ps IN-to-OUT tpd
  - <200ps tr/tf times
  - <30ps skew (output-to-output)
- Ultra-low jitter design:
  - 40fsRMS phase jitter
  - <0.7psRMS crosstalk-induced jitter
- Unique input termination and VT pin accepts DCand AC-coupled inputs (CML, PECL, LVDS)
- 100k LVPECL compatible output swing
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



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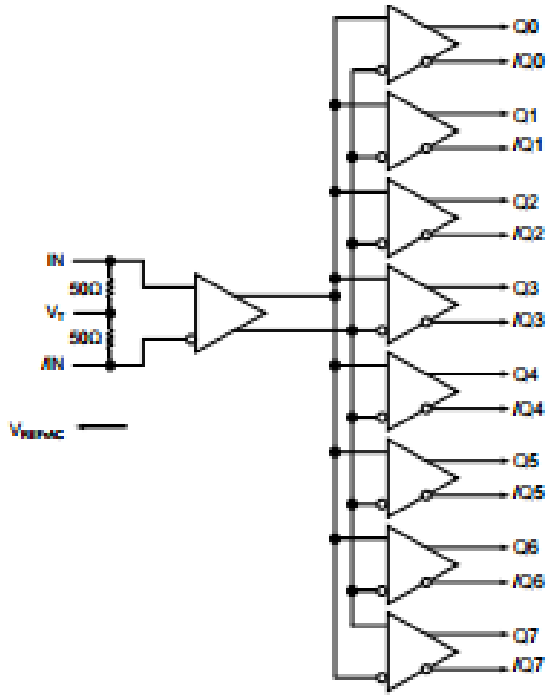
SY58031U

Online Datasheet

Product Tree

Features:

- Precision 1:8, 400mV CML fanout buffer
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >6GHz
  - <60ps tr/tf time
  - <270ps tpd
  - <20ps ouput-to-output skew
- Low-jitter performance:
  - 75fsRMS phase jitter (typ)
- 50Ω source-terminated CML outputs
- 400mV CML output swing into 50Ω load
- Fully differential I/O
- Accepts an input signal as low as 100mV
- Unique, patent-pending input termination and VT pin accepts DC-coupled and AC-coupled differential inputs: (LVPECL, LVDS, and CML)
- Power supply 2.5V ±5% or 3.3V ±10%
- Industrial temperature range: -40°C to +85°C
- Available in 32-pin (5mm x 5mm) MLF® package



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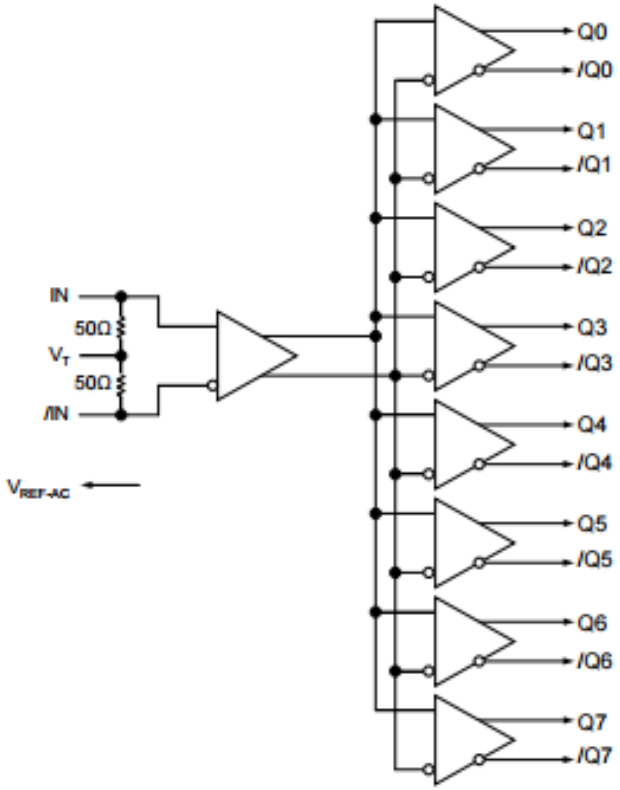
SY58032U

Online Datasheet

Product Tree

Features:

- Precision 1:8, LVPECL fanout buffer
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to 4GHz
  - <110ps tr/tf times
  - <330ps tpd
  - <20ps skew
- Low-jitter performance:
- 76fsRMS phase jitter (typ)
- 100k LVPECL compatible outputs
- Fully differential inputs/outputs
- Accepts an input signal as low as 100mV
- Unique input termination and VT pin accepts DC-coupled and AC-coupled differential inputs: (LVPECL, LVDS, and CML)
- Power supply 2.5V ±5% or 3.3V ±10%
- Industrial temperature range: -40°C to +85°C
- Available in 32-pin (5mm x 5mm) MLF® package



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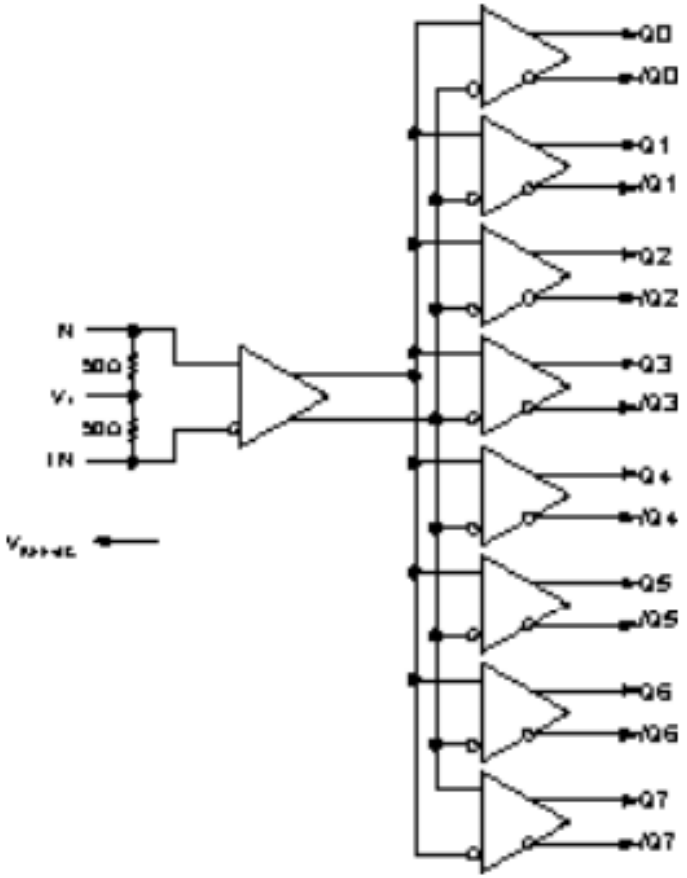
SY58033U

Online Datasheet

Product Tree

Features:

- Precision 1:8, 400mV LVPECL fanout buffer
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to 5.5GHz
  - <80ps tr/tf times
  - <280ps tpd
  - <20ps skew
- Low-jitter performance:
  - 76fsRMS phase jitter (typ)
  - "top" >100k LVPECL compatible outputs
- Fully differential inputs/outputs
- Accepts an input signal as low as 100mV
- Unique input termination and VT pin accepts DC-coupled and AC-coupled differential inputs:
  - (LVPECL, LVDS, and CML)
- Power supply 2.5V ±5% or 3.3V ±10%
- Industrial temperature range: -40°C to +85°C
- Available in 32-pin (5mm x 5mm) MLF® Package



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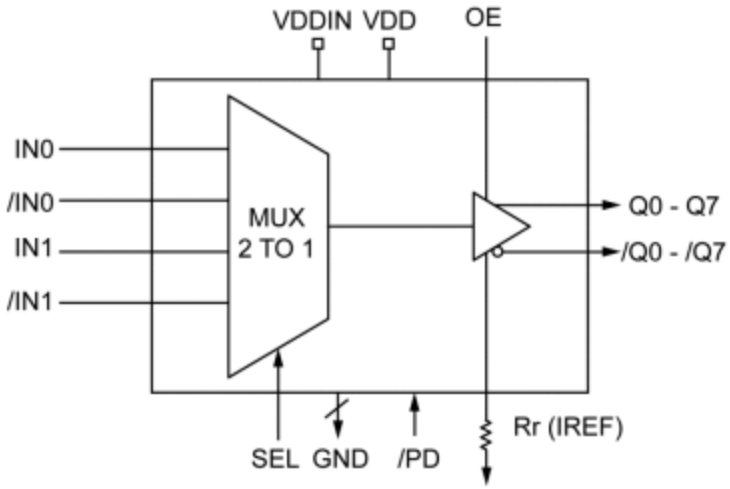
SY75578L

Online Datasheet

Product Tree

Features

- Eight differential pairs of HCSL outputs
- Two pairs of differential inputs accept LVDS or HCSL logic levels
- 267MHz max frequency
- Ultra low phase jitter:
  - 130fs$_{rms}$, 200MHz (12kHz–20MHz)
- <100ps output-to-output skew
- 3.3V ±5% power supply operation
- –40°C to +85°C Industrial operating temperature
- Available in 32-pin QFN lead-free package



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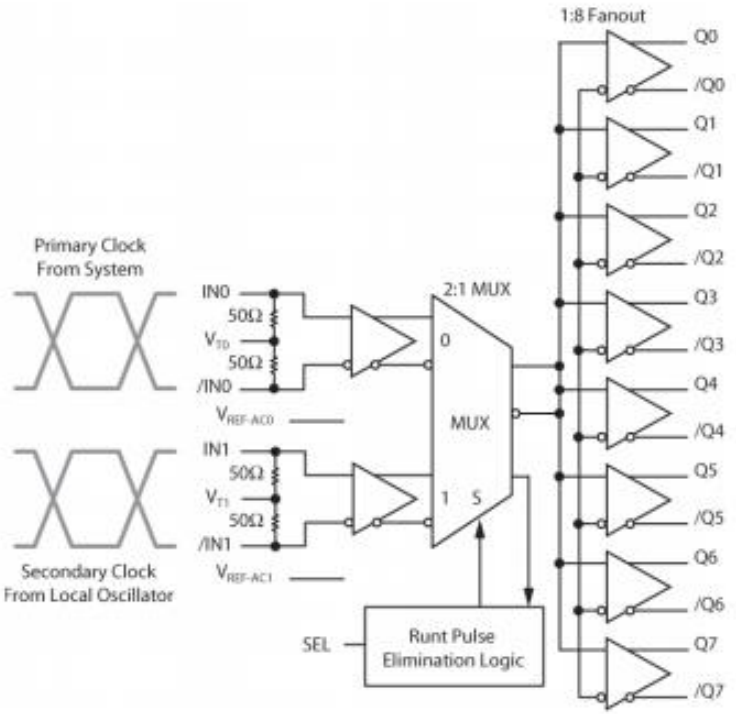
SY89837U

Online Datasheet

Product Tree

Features:

- Selects between two clocks, and provides 8 precision, low skew LVPECL output copies
- Guaranteed AC performance over temperature and supply voltage:
- Wide operating frequency: 1kHz to >1.5GHz
  - <975ps in-to-out tpd
  - <180ps tr/tf
  - <40ps output-to-output skew
- Unique input isolation design minimizes crosstalk
- Ultra-low jitter design:
  - 150fs RMS phase jitter
  - <0.7psRMS MUX crosstalk-induced jitter
- Unique input termination and VTpin accepts DC- or AC-coupled inputs (CML, PECL, LVDS)
- 800mV LVPECL output swing
- Power supply +2.5V ±5% or +3.3V ±10%
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



Typical Application Circuit

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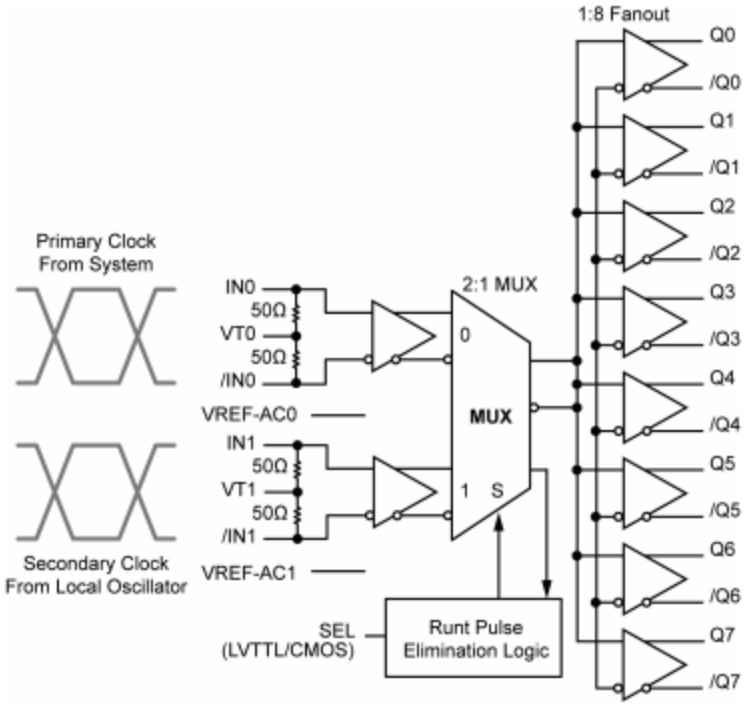
SY89838U

Online Datasheet

Product Tree

Features:

- Selects between two clocks, and provides 8 precision, low skew LVDS output copies
- 2:1 MUX input provides a glitch-free, stable LVDS output
- Guaranteed AC performance over temperature and supply voltage:
  - Wide operating frequency: 1kHz to >1.5GHz
  - <150ps tr/tf
  - <40ps output-to-output skew
- Unique patent-pending input isolation design minimizes crosstalk
- Fail-safe input prevents oscillation
- Ultra-low jitter design:
  - 150fs RMS phase jitter
  - <0.7psRMS MUX crosstalk-induced jitter
- Unique patent-pending input termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- 350mV LVDS output swing
- Power supply 2.5V ±5%
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



Typical Application

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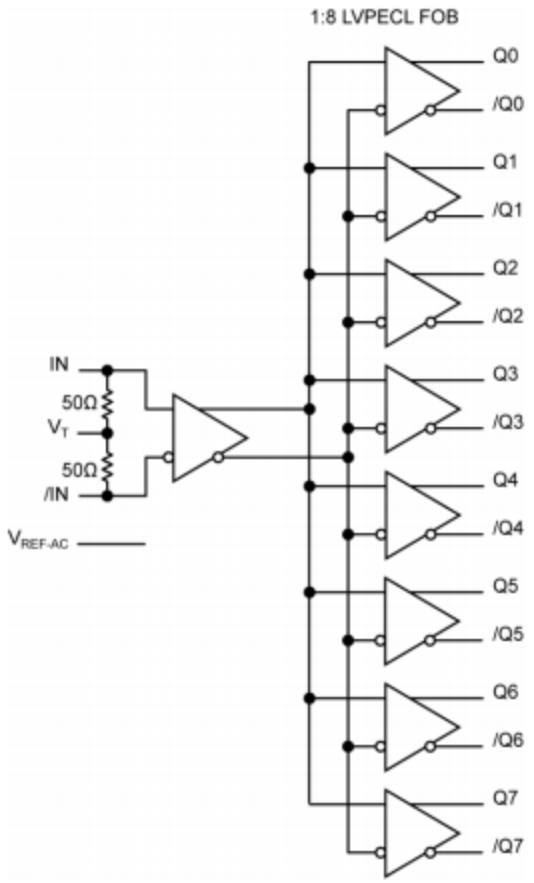
SY89858U

Online Datasheet

Product Tree

Features:

- Precision 1:8, LVPECL fanout buffer
- Low power: 238mW (2.5V)
- Guaranteed AC performance over temperature and supply voltage:
  - Wide operating frequency: DC to 2.0GHz
  - <380ps In-to-Out tpd
  - <200ps tr/tf
  - <30ps skew
- Ultra-low jitter design:
  - 710fsRMS phase jitter (typ.)
- 100k LVPECL compatible outputs
- Fully differential inputs/outputs
- Accepts an input signal as low as 100mV (200mVpp)
- Unique patent pending input termination and VT pin accepts DC-coupled and AC-coupled differential inputs (LVPECL, LVDS, and CML)
- Power supply 2.5V ±5% or 3.3V ±10%
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



Typical Application

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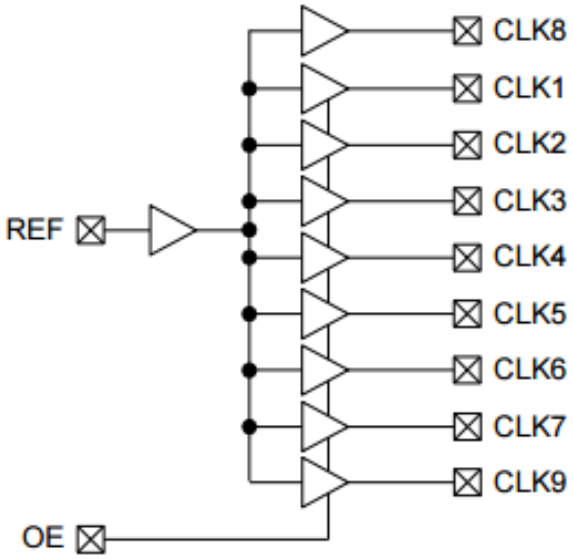
PL133-97

Online Datasheet

Product Tree

Features:

- 1:9 LVCMOS output fanout buffer for DC to 150MHz
- 8mA Output Drive Strength
- Low power consumption for portable applications
- Low input-output delay
- Output-Output skew less than 250ps
- Low Additive Phase Jitter of 60fs RMS
- 2.5V to 3.3V ±10% operation
- Operating temperature range from -40°C to 85°C
- Available in 16-Pin QFN GREEN/RoHS package



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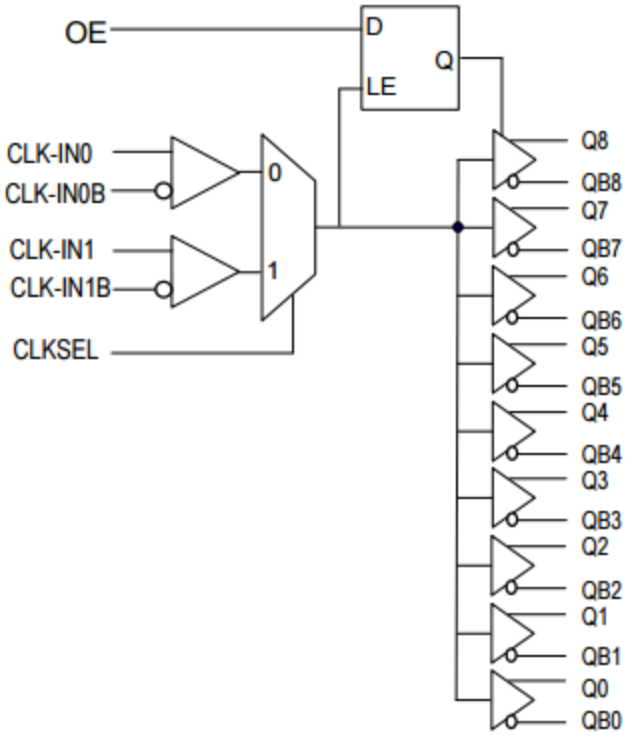
PL138-98

Online Datasheet

Product Tree

FEATURES

- Nine differential 2.5V/3.3V LVPECL output pairs.
- Output Frequency: ≤ 700 MHz.
- Two selectable differential input pairs.
- Translates any standard single-ended or differential input format to LVPECL output. It can accept the following standard input formats and more:
  - LVPECL, LVCMOS, LVDS, HCSL, SSTL, LVHSTL, CML.
- Output Skew: 25ps (typ.).
- Part-to-part skew: 140ps (typ.).
- Propagation delay: 1.5ns (typ.).
- Additive Jitter: <100 fs (typ.).
- Operating Supply Voltage: 2.375V ~ 3.63V.
- Operating temperature range from -40°C to 85°C.
- Package availability: 32-pin LQFP.



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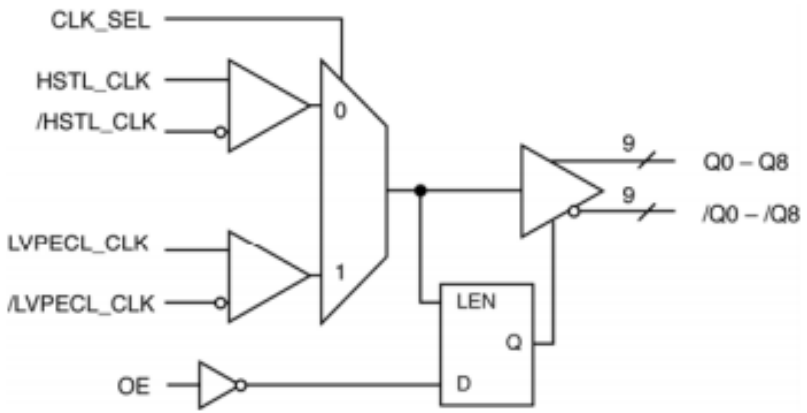
SY89809AL

Online Datasheet

Product Tree

Features:

- 3.3V core supply, 1.8V output supply for reduced power
- LVPECL and HSTL inputs
- Nine differential HSTL (low-voltage swing) output pairs
- HSTL outputs drive 50Ω-to-ground with no offset voltage
- 750MHz maximum clock frequency
- Low part-to-part skew (100ps typical)
- Low pin-to-pin skew (15ps typical)
- Available in 32-pin TQFP



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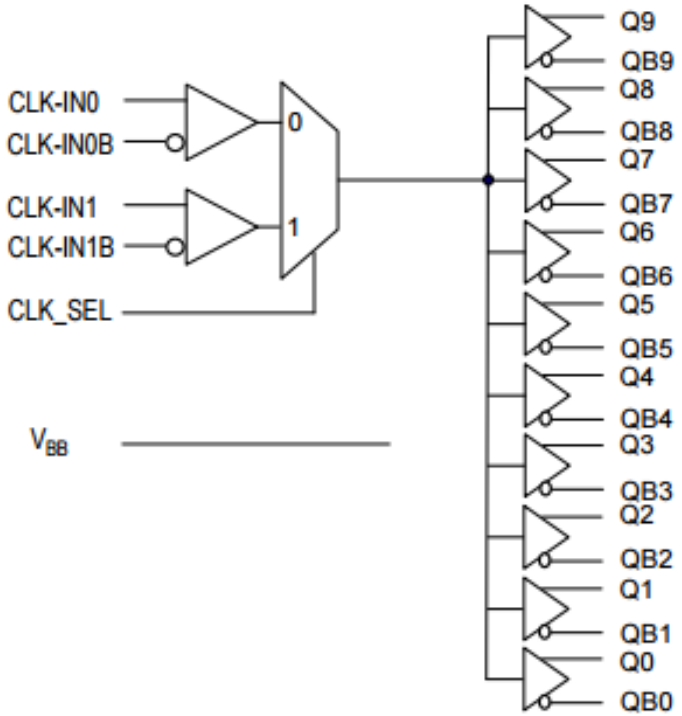
PL138-18

Online Datasheet

Product Tree

FEATURES

- Ten differential 2.5V/3.3V LVPECL output pairs.
- Output Frequency: ≤ 700 MHz.
- Two selectable differential input pairs.
- Translates any standard single-ended or differential input format to LVPECL output. It can accept the following standard input formats and more:
  - LVPECL, LVCMOS, LVDS, HCSL, SSTL, LVHSTL, CML.
- Output Skew: 25ps (typ.).
- Part-to-part skew: 140ps (typ.).
- Propagation delay: 1.5ns (typ.).
- Additive Jitter: <100 fs (typ.).
- Operating Supply Voltage: 2.375V ~ 3.63V.
- Operating temperature range from -40°C to 85°C.
- Package availability: 32-pin LQFP.



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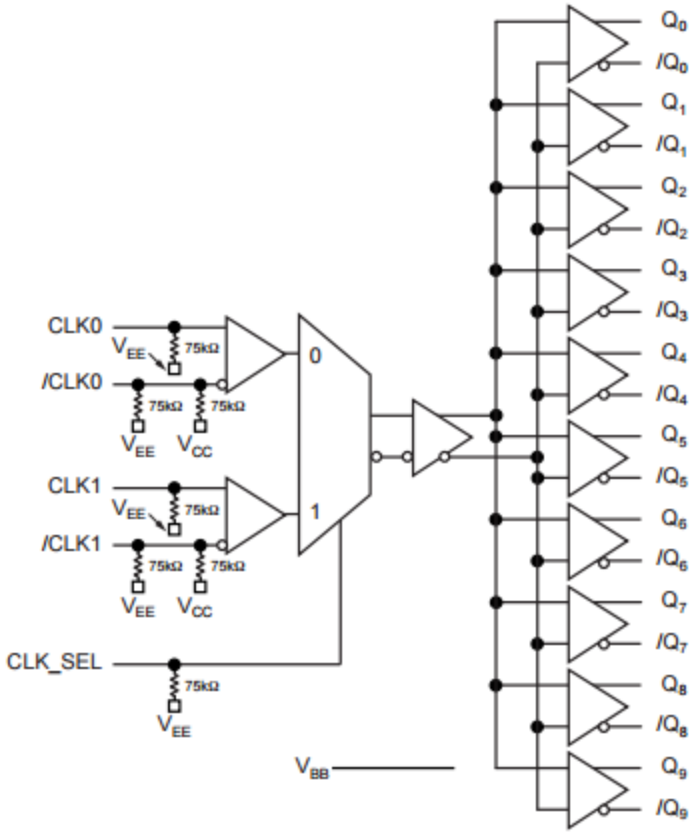
SY100EP111

Online Datasheet

Product Tree

FEATURES

- 2.5V and 3.3V power supply options
- Guaranteed AC parameters over temperature:
  - f_{MAX} = 3GHz
  - < 25ps output-to-output skew
  - < 250ps t_r / t_f
  - < 400ps propagation delay
- Wide temperature range: –40°C to +85°C
- Differential design
- V_{BB} output for single-ended input applications
- Fully compatible with industry standard 100K I/O levels
- Available in 32-pin TQFP package



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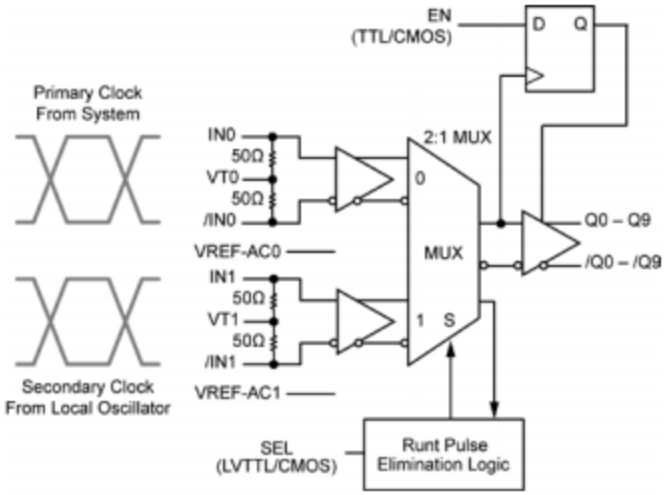
SY89464U

Online Datasheet

Product Tree

Features:

- Selects between two sources, and provides 10 precision LVPECL copies
- Guaranteed AC performance over temperature and supply voltage:
  - Wide operating frequency: 1kHz to >1.5GHz
  - <1100ps In-to-Out tpd
  - <220ps tr/tf
- Unique, patent-pending MUX input isolation design minimizes adjacent channel crosstalk
- Fail-Safe Input prevents oscillations
- Ultra-low jitter design:
  - <1psRMS random jitter
  - <1psRMS cycle-to-cycle jitter
  - <10psPP total jitter (clock)
  - <0.7psRMS MUX crosstalk induced jitter
- Unique patented internal termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- 800mV LVPECL output
- 2.5V ±5% or 3.3V ±10% supply voltage
- Output enable
- -40°C to +85°C industrial temperature range
- Available in 44-pin (7mm x 7mm) QFN package



Typical Application

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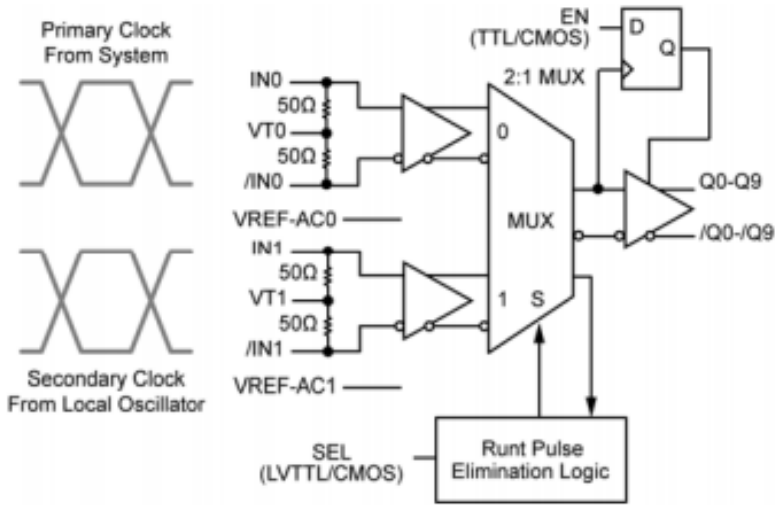
SY89465U

Online Datasheet

Product Tree

Features:

- Selects between two sources, and provides 10 precision LVDS copies
- Guaranteed AC performance over temperature and supply voltage:
  - Wide operating frequency: 1kHz to >1.5GHz
  - <1200ps In-to-Out tpd
  - <220ps tr/tf
- Unique, patent-pending input isolation design minimizes adjacent channel crosstalk
- Fail-Safe Input prevents oscillations
- Ultra-low jitter design:
  - 183fsRMS phase jitter (typical)
  - <0.7psRMS MUX crosstalk-induced jitter
- Unique patented input termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- 325mV LVDS output swing
- 2.5V ±5% supply voltage
- –40°C to +85°C industrial temperature range
- Output enable
- Available in 44-pin (7mm x 7mm) QFN package



Typical Application

<< BACK

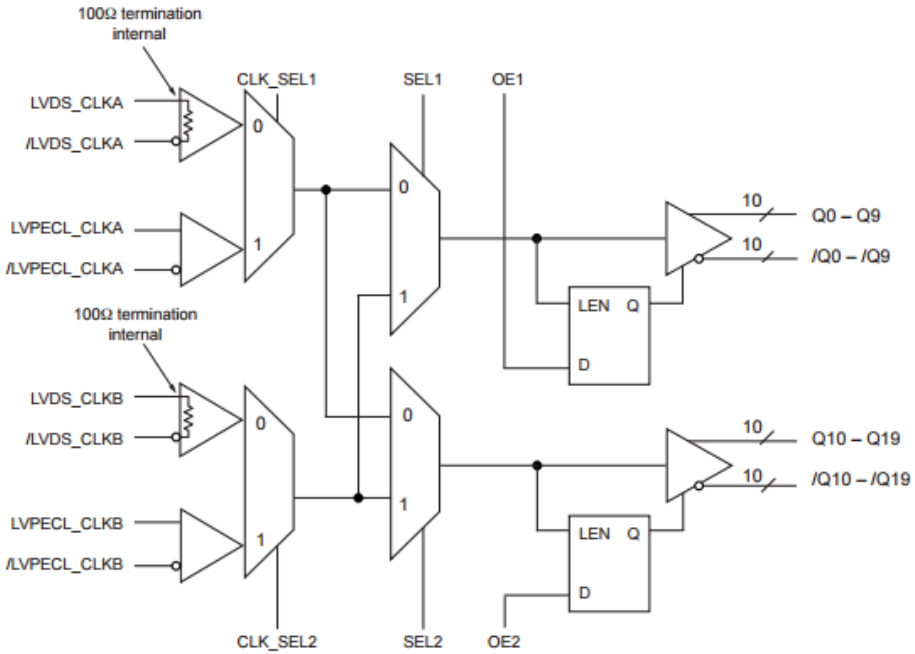
SY89828L

Online Datasheet

Product Tree

Features:

- High-performance dual 1:10, 1GHz LVDS fanout buffer/translator
- Two banks of 10 differential LVDS outputs
- Guaranteed AC parameters over temperature and voltage:
  - >1GHz fMAX
  - <50ps within device skew
  - <400ps tr/tf time
- Each bank includes a 2:1 input mux
- 2:1 mux input accepts LVDS and LVPECL
- Low jitter performance
  - <1psRMS cycle-to-cycle jitter
  - <1psPP total jitter
- 3.3V supply voltage
- Output enable function
- LVDS input includes internal 100Ω termination
- Available in a 64-Pin EPAD-TQFP



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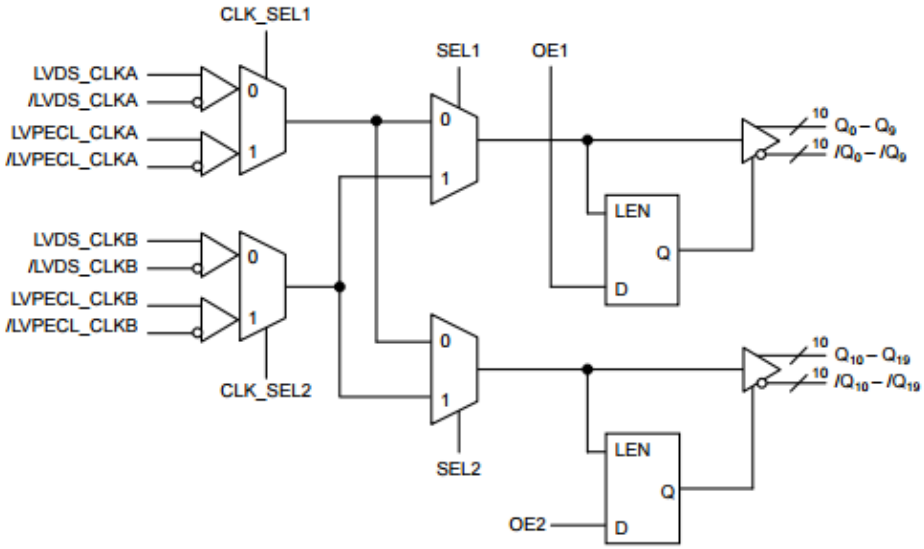
SY89829U

Online Datasheet

Product Tree

Features:

- Dual 1:10 fanout buffer/translator
- Accepts LVPECL or LVDS inputs
- Multiplexed inputs ideal for redundant clock switchover
- Guaranteed AC parameters:
  - >2GHz fMAX (toggle)
  - <50ps ch-ch skew
- LVDS input includes 100Ω internal termination
- Low supply voltage: 2.5V, 3.3V
- -40°C to +85°C temperature range
- Output enable (OE) pin
- Available in 64 EPAD-TQFP



Logic Symbol

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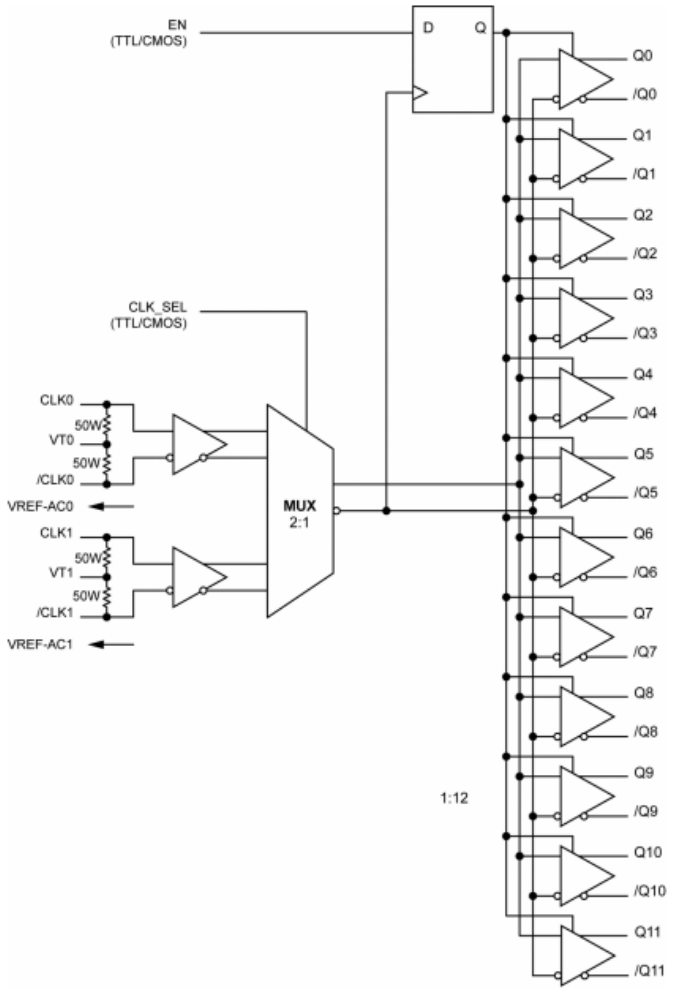
SY89112U

Online Datasheet

Product Tree

Features:

- Selects between 1 of 2 inputs, and provides 12 precision, low skew LVPECL output copies
- Guaranteed AC performance over temperature and voltage:
  - DC to >2GHz throughput
  - <550ps propagation delay CLK-to-Q
  - <220ps rise/fall time
  - <25ps output-to-output skew
- Ultra-low jitter design:
  - 50fsRMS phase jitter (typ.)
- <0.7psRMS crosstalk induced jitter
- Unique, patent-pending input termination and VT pin accepts DC-coupled and AC-coupled differential inputs
- Unique, patent-pending 2:1 input MUX provides superior isolation to minimize channel-to-channel crosstalk
- 800mV, 100K LVPECL output swing
- Power supply 2.5V +5% or 3.3V +10%
- Industrial temperature range -40°C to +85°C
- Available in 44-pin (7mm x 7mm) QFN package



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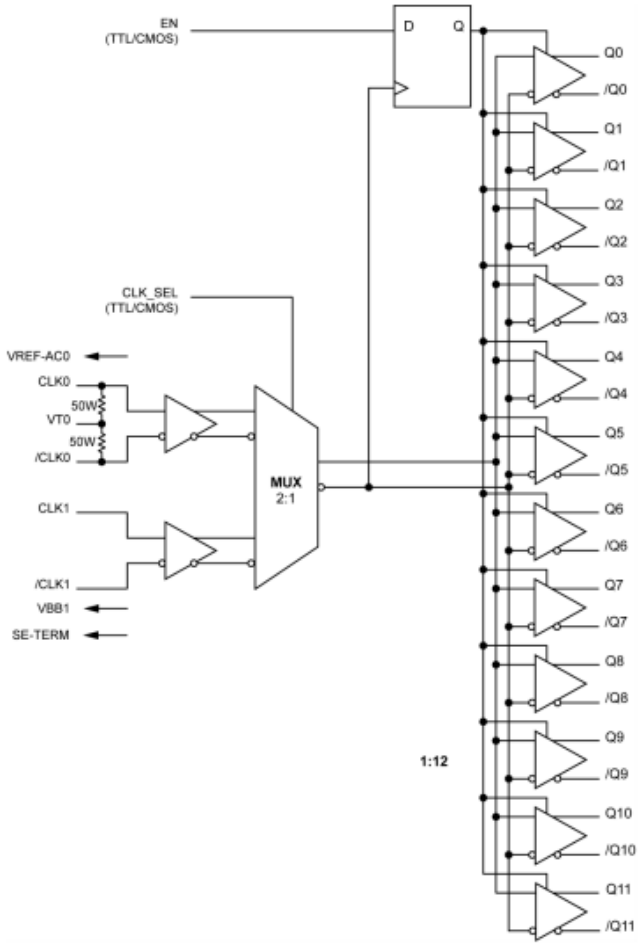
SY89113U

Online Datasheet

Product Tree

Features:

- Selects between 1 of 2 inputs, and provides 12 precision, low skew LVDS output copies
- Guaranteed AC performance over temperature and voltage:
  - DC to >1GHz throughput
  - <975ps propagation delay CLK0-to-Q
  - <250ps rise/fall time
  - <25ps output-to-output skew
- Ultra-low jitter design:
  - 130fsRMS phase jitter (typ.)
  - 0.7psRMS crosstalk-induced jitter
- Unique, patent-pending 2:1 input MUX provides superior isolation to minimize channel-to-channel crosstalk
- CLK0 input features a unique, patent-pending input termination and VT pin that accepts AC- and DC-coupled inputs (CML, LVPECL, LVDS)
- CLK1 accepts virtually any logic standard:
  - Single-ended: TTL/CMOS (including 3.3V logic), LVPECL
  - Differential: LVPECL, LVDS, CML, HSTL
- 325mV LVDS-compatible output swing
- Power supply: 2.5V ±5%
- Industrial temperature range -40°C to +85°C
- Available in 44-pin (7mm x 7mm) QFN package



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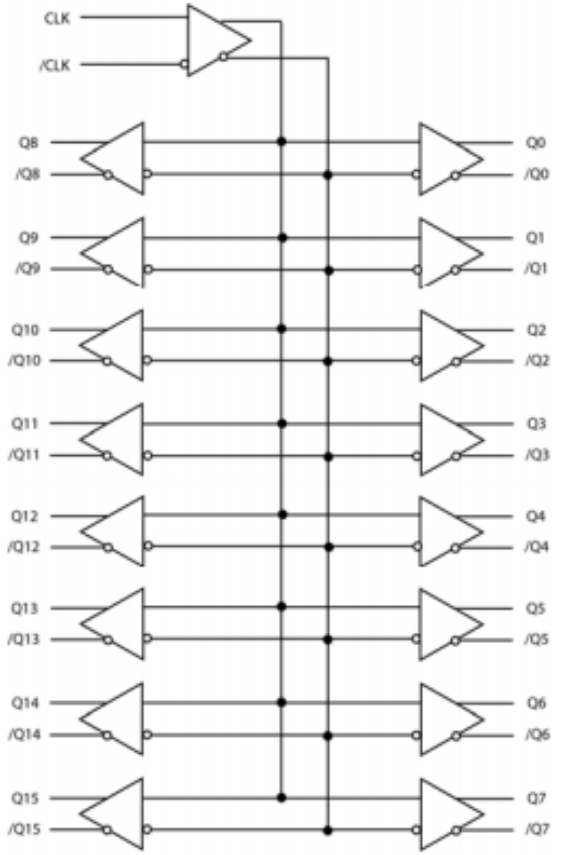
SY898530U

Online Datasheet

Product Tree

Features:

- 16 Differential 2.5V LVPECL outputs
- Differential CLK inputs. Accepts LVDS, LVPECL, LVHSTL, SSTL, HCSL logic levels
- Translates any single-ended input signal to 2.5V LVPECL levels with a resistor bias on /CLK input
- 500MHz maximum output frequency
- <50ps output skew
- <250ps part-to-part skew
- <2ns propagation delay
- 3.3V Core, 2.5V output operating supply
- 0°C to +70°C operating temperature
- Available in 48-pin TQFP package
- Pin-to-pin compatible with ICS8530



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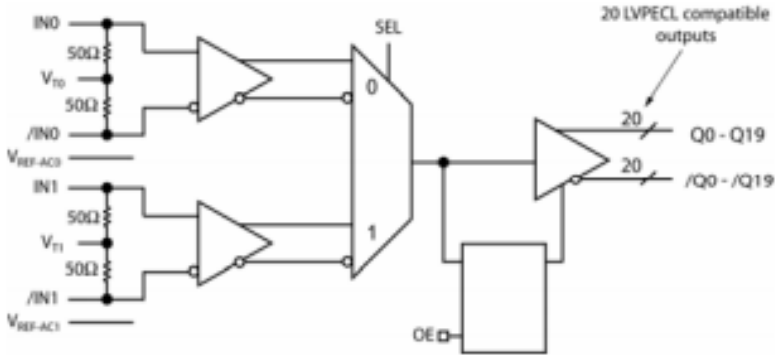
SY89467U

Online Datasheet

Product Tree

Features:

- Selects between two inputs, and provides 20 precision LVPECL copies
- Fail-Safe Input
  - Prevents outputs from oscillating when input is invalid
- Guaranteed AC performance over temperature and supply voltage:
  - DC-to >1.5 GHz throughput
  - <1200ps Propagation Delay (In-to-Q)
  - 270ps Rise/Fall times
- Ultra-low jitter design:
  - <1psRMS random jitter
- <1psRMS cycle-to-cycle jitter
- <10psPP total jitter (clock)
- <0.7psRMS MUX crosstalk induced jitter
- Unique, patented MUX input isolation design minimizes adjacent channel crosstalk
- Unique patented internal termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- Wide input voltage range: VCC to GND
- 2.5V ±5% or 3.3V ±10% supply voltage
- -40°C to +85°C industrial temperature range
- Available in 64-pin TQFP package



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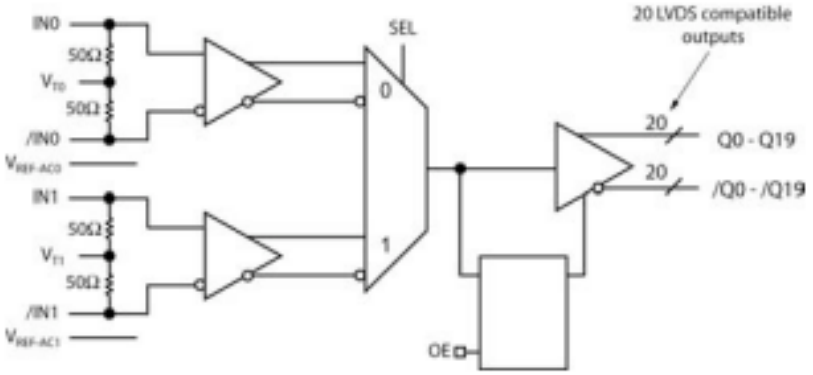
SY89468U

Online Datasheet

Product Tree

Features:

- Selects between two inputs, and provides 20 precision LVDS copies
- Fail-Safe Input
  - Prevents outputs from oscillating when input is invalid
- Guaranteed AC performance over temperature and supply voltage:
  - DC to >1.5GHz throughput
  - <1200ps Propagation Delay (In-to-Q)
  - <270ps Rise/Fall times
- Ultra-low jitter design:
  - <1psRMS random jitter
- <1psRMS cycle-to-cycle jitter
- <10psPP total jitter (clock)
- <0.7psRMS MUX crosstalk induced jitter
- Unique, patented MUX input isolation design minimizes adjacent channel crosstalk
- Unique, patented internal termination and VT pin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- Wide input voltage range VCC to GND
- 2.5V ±5% supply voltage
- -40°C to +85°C industrial temperature range
- Available in 64-pin EPAD-TQFP package



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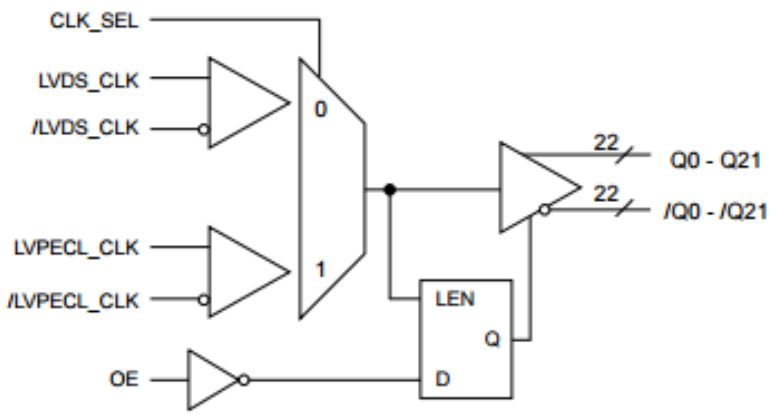
SY89825U

Online Datasheet

Product Tree

Features:

- LVPECL or LVDS input to 22 LVPECL outputs
- 100K ECL compatible outputs
- LVDS input includes 100Ω termination
- Guaranteed AC parameters over voltage:
  - >2GHz fMAX (toggle)
- <35ps max. ch-ch skew
- Low voltage operation: 2.5V, 3.3V
- Temperature range: -40°C to +85°C
- Output enable pin
- Available in a 64-Pin EPAD-TQFP



Logic Symbol

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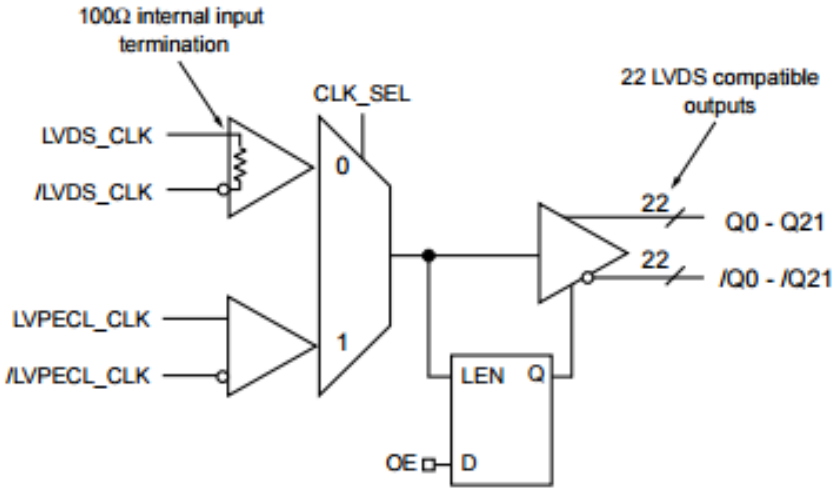
SY89826L

Online Datasheet

Product Tree

Features:

- High-performance, 1GHz LVDS fanout buffer/ translator
- 22 differential LVDS output pairs
- Guaranteed AC parameters over temperature and voltage:
  - >1GHz fMAX
  - <50ps within device skew
  - <400ps tr/tf time
- Low jitter performance
  - <1psrms cycle-to-cycle jitter
  - <1ps (pk-pk) total jitter
- 2:1 mux input accepts LVDS and LVPECL
- 3.3V supply voltage
- LVDS input includes internal 100Ω termination
- Output enable function
- Available in a 64-Pin EPAD-TQFP



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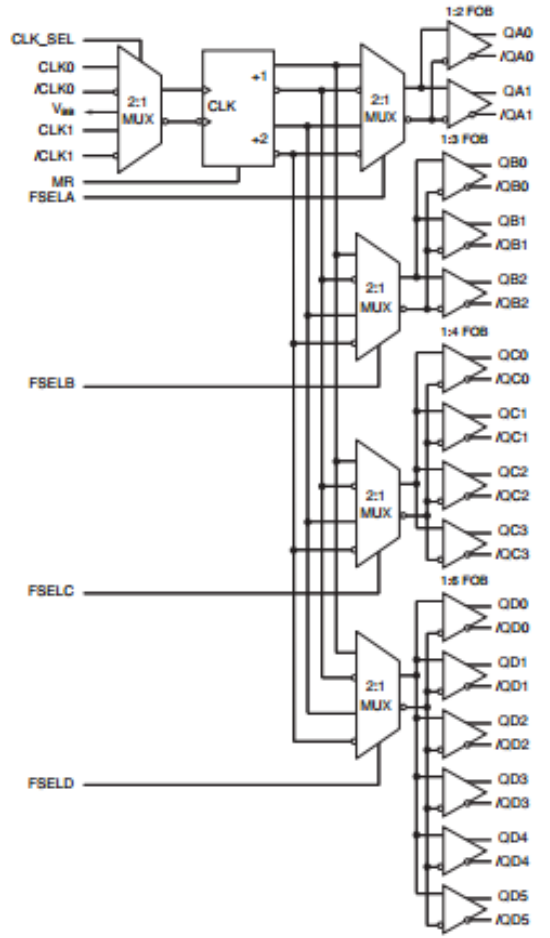
SY100E310L

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and voltage:
  - >800MHz f_{MAX} (typical)
  - <50ps within-device skew
- Low voltage operation:
  - LVPECL: +3.3V ±10%
  - LVECL: –3.3V ±10%
- Internal 75kΩ pull-down resistors
- Guaranteed over industrial temperature range: –40°C to +85°C
- Pin-for-pin, plug-in replacement for MC100LVE310
- Available in 28-pin PLCC package



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SY10EP89

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 3.0GHz typical toggle frequency
- 310ps typical propagation delay
- 1.6V (5V) and 1.4V (3.3V) swing
- Internal input resistors: pulldown on D, pulldown and pullup on /D
- New differential input common mode range
- Available in 8-pin MSOP and SOIC packages

<< BACK

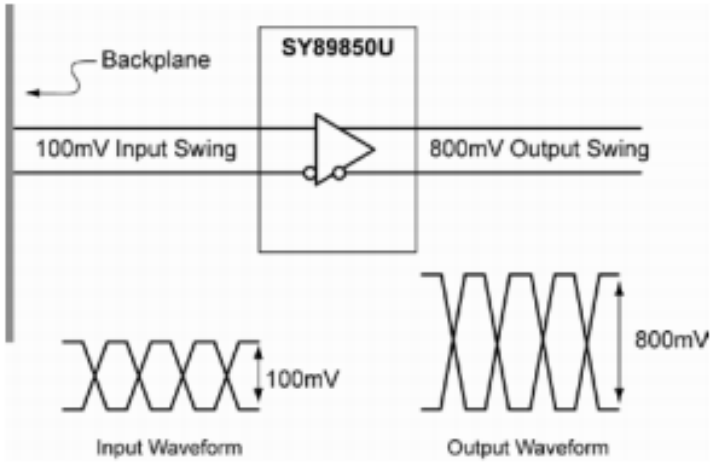
SY89850U

Online Datasheet

Product Tree

Features:

- Guaranteed AC performance over temperature and supply voltage:
  - DC-to >3.2Gbps data rate throughput
  - 4GHz clock fMAX (typ.)
  - <280ps In-to-Out tpd
  - <160ps tr/tf
  - Low power: 50mW (2.5V typ.)
  - Ultra-low jitter design:
    - <1psRMS random jitter
- <10psPP deterministic jitter
- <10psPP total jitter (clock)
- Unique input termination and VTpin accepts DC- and AC-coupled inputs (CML, PECL, LVDS)
- Typical 800mV (100k) LVPECL Output Swing
- Power supply 2.5V ±5% or 3.3V ±10%
- Industrial temperature range -40°C to +85°C
- Available in ultra-small (2mm x 2mm) 8-pin DFN package



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SY100EL16V

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 250ps propagation delay
- High bandwidth output transitions
- Internal 75KΩ input pull-down resistors
- Replaces SY10/100EL16
- Improved output waveform characteristics
- Available in 8-pin (3mm x 3mm) MSOP and SOIC package

<< BACK

SY100EL17

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- High bandwidth output transitions
- Internal 75KΩ input pull down resistors
- Available in 20-pin SOIC package

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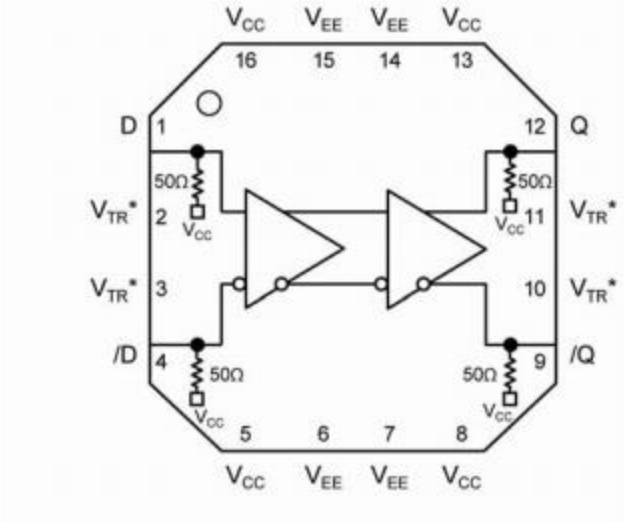
SY58016L

Online Datasheet

Product Tree

Features:

- Accepts up to 10.7Gbps data
- <45ps edge rate
- Gain ≥ 4V/V
- CML/PECL differential inputs
- CML outputs
- Internal 50Ω input termination
- Internal 50Ω output load resistors
- Available in die or 16-pin (3mm x 3mm) MLF® package



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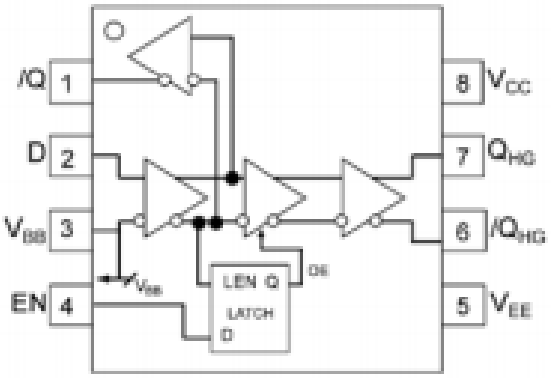
SY89251V

Online Datasheet

Product Tree

Features:

- 3.3V and 5V power supply options
- 250ps propagation delay
- Ideal for pulse amplifier and limiting amplifier applications
- Data synchronous enable/disable (EN) on QHG and /QHG provides for complete glitchless gating of the outputs
- Ideal for gating timing signals
- Complete solution for high quality, high frequency crystal oscillator applications
- Available in an ultra-small 8-pin (2mm x 2mm) DFN package



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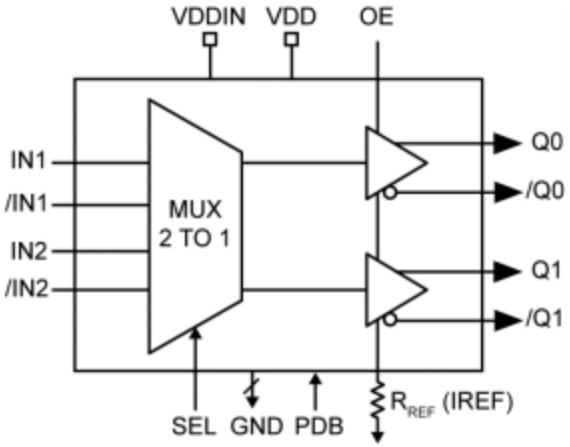
SY75572L

Online Datasheet

Product Tree

Features:

- Two differential pairs of LVDS or HCSL outputs
- Two pairs of differential inputs accept LVDS or HCSL logic levels
- 267MHz maximum frequency
- Ultra-low phase jitter:
  - 137fsRMS, 200MHz (12kHz–20MHz)
  - 153fsRMS, 156.25MHz (12kHz–20MHz)
  - 212fsRMS, 100MHz (12kHz–20MHz)
- <2ps total jitter (peak-to-peak), 200MHz (BER = 10-12)
- 50ps output-to-output skew
- 3.3V ±5% power supply operation
- -40°C to +85°C operating temperature
- Available in 16-pin (3mm × 3mm) QFN lead-free package



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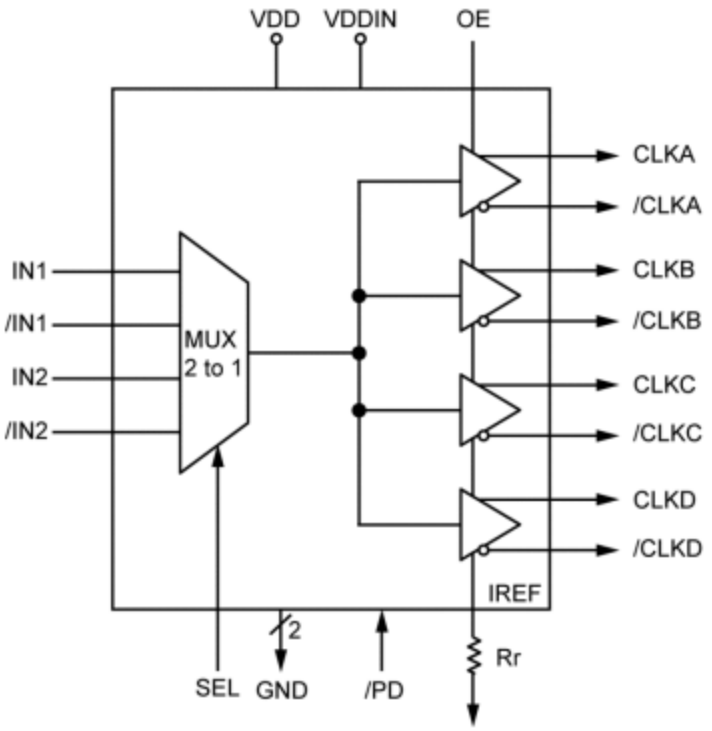
SY75576L

Online Datasheet

Product Tree

Features

- Four differential pairs of LVDS or HCSL outputs
- Two pairs of differential inputs accept LVDS or HCSL logic levels
- 267MHz max HCSL frequency
- 100MHz max LVDS frequency
- Ultra low phase jitter:
  - 137fs_{rms}, 200MHz (12kHz–20MHz)
  - 153fs_{rms}, 156.25MHz (12kHz–20MHz)
  - 212fs_{rms}, 100MHz (12kHz–20MHz)
- <2ps Total_Jitter$_{pk-pk}$, 200MHz (BER = 10^{-12})
- 50ps output-to-output skew
- 3.3V ±5% power supply operation
- –40°C to +85°C operating temperature
- Available in 20-pin TSSOP lead-free package



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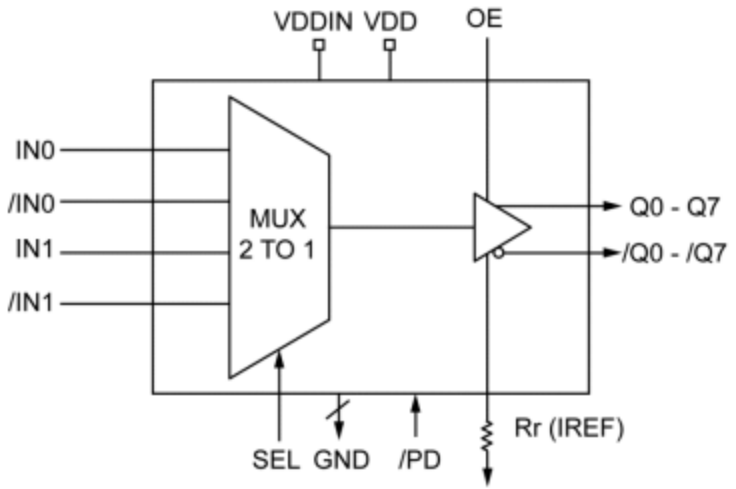
SY75578

Online Datasheet

Product Tree

Features

- Eight differential pairs of HCSL outputs
- Two pairs of differential inputs accept LVDS or HCSL logic levels
- 267MHz max frequency
- Ultra low phase jitter:
  - 130fs$_{rms}$, 200MHz (12kHz–20MHz)
- <100ps output-to-output skew
- 3.3V ±5% power supply operation
- –40°C to +85°C Industrial operating temperature
- Available in 32-pin QFN lead-free package



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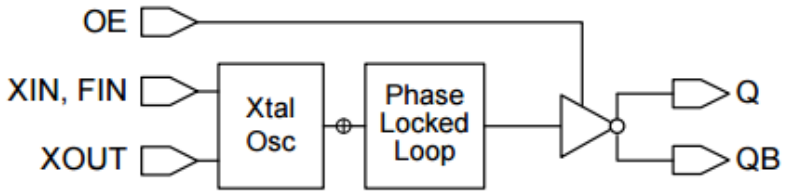
PL602-XX

Online Datasheet

Product Tree

Features:

- Input Frequency:
  - Fundamental Crystal or Reference Input: 25MHz
- Output Frequency:
  - PL602-21: 100MHz differential outputs
  - PL602-22: 125MHz differential outputs
  - PL602-23: 200MHz differential outputs
  - PL602-26: 25MHz differential outputs
  - PL602-27: 250MHz differential outputs
  - PL602-15: 156.25MHz differential outputs
- Very low Jitter: 28ps Pk-Pk typ
- Very low Phase Noise:
  - -130 dBc at 10kHz offset at 100MHz
- No external loop filter is required
- Power supply range: 2.25V to 3.63V
- Operating temperature range from -40°C to 85°C
- Available in 6-pin SOT or 8-pin SOP Green/RoHS compliant package



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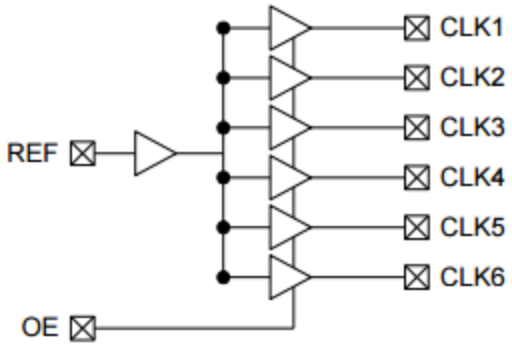
PL133-67

Online Datasheet

Product Tree

Features:

- 1:6 LVCMOS output fanout buffer for DC to150MHz
- 8mA Output Drive Strength
- Low power consumption for portable applications
- Low input-output delay
- Output-Output skew less than 250ps
- Low Additive Phase Jitter of 60fs RMS
- 2.5V to 3.3V ±10% operation
- Operating temperature range from -40°C to 85°C
- Available in 16-Pin SOP GREEN/RoHS package



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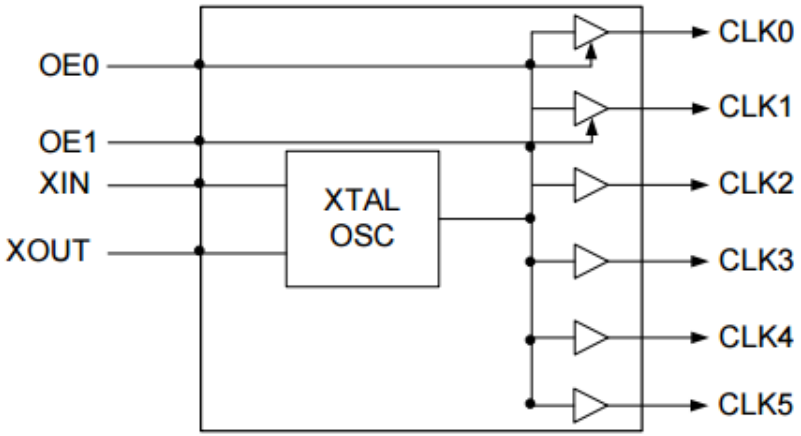
PL135-67

Online Datasheet

Product Tree

Features:

- Advanced Oscillator Design for Wide Frequency Coverage
- 6 LVCMOS Outputs with 2 Output Enable Pins
- 8mA Output Drive Strength
- Input/Output Frequency:
  - Fundamental Crystal: 10MHz to 40MHz
- Very Low Jitter and Phase Noise
- Low Current Consumption
- Single 1.62V to 3.63V Power Supply
- Available in QFN-16L and TSSOP-16L GREEN/RoHS Compliant Packages



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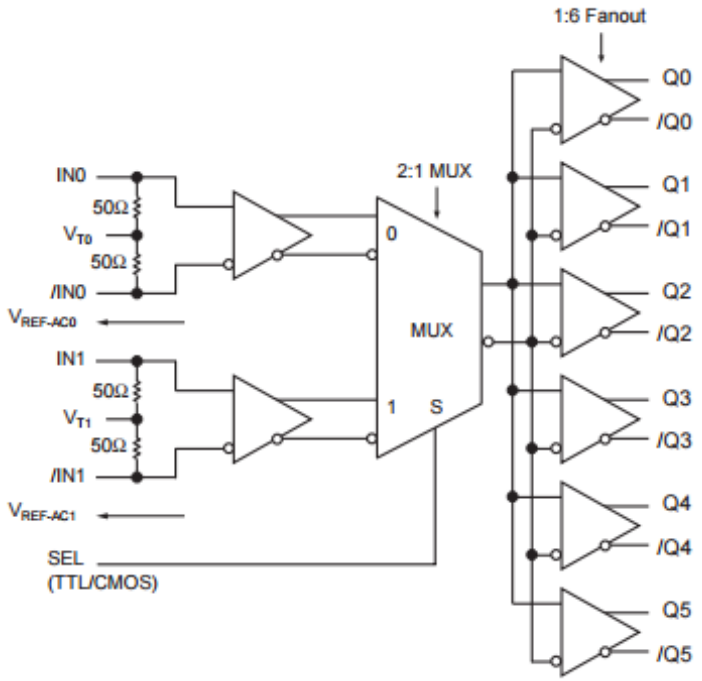
SY58034U

Online Datasheet

Product Tree

Features:

- Provides six ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >6GHz
  - <290ps IN-to-OUT tpd
  - <60ps tr/tf times
  - <20ps skew (output-to-output)
- Unique input isolation design minimizes crosstalk
- Ultra low-jitter design:
  - 60fs RMS phase jitter
  - <0.7psRMS crosstalk-induced jitter
- Low supply voltage operation: 2.5V and 3.3V
- Unique input termination and VT pin accepts DCcoupled and AC-coupled inputs (CML, PECL, LVDS)
- Internal 50ý output source termination
- 400mV CML output swing
- -40°C to +85°C temperature range
- Available in 32-pin (5mm x 5mm) QFN package



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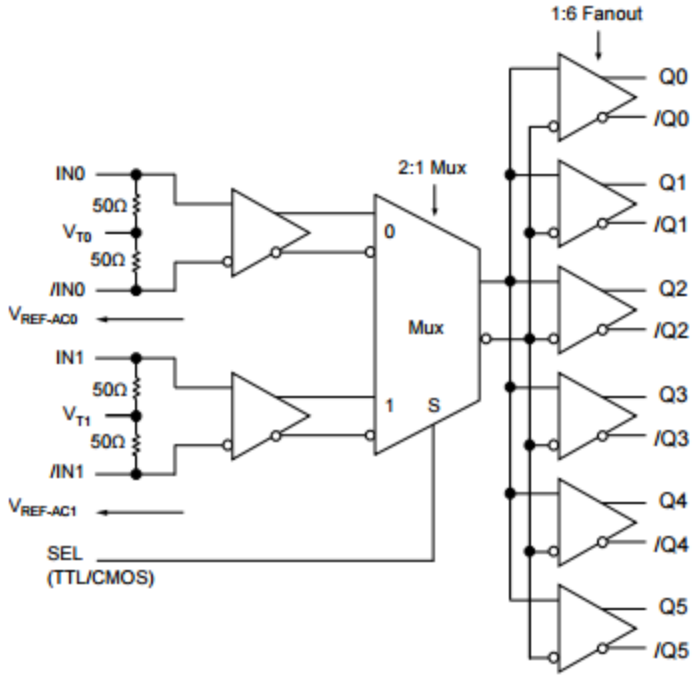
SY58035U

Online Datasheet

Product Tree

Features:

- Provides six ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >4.5GHz
  - <320ps IN-to-OUT tpd
  - <110ps tr/tf times
  - <20ps skew (output-to-output)
- Ultra-low jitter design:
- 50fsRMS phase jitter (typ)
- Low supply voltage operation: 2.5V and 3.3V
- Unique input termination and VTpin accepts DCcoupled and AC-coupled inputs (CML, PECL, LVDS)
- Unique input isolation design minimizes crosstalk
- 100K LVPECL compatible output swing
- -40°C to +85°C temperature range
- Available in 32-pin (5mm x 5mm) MLF® package



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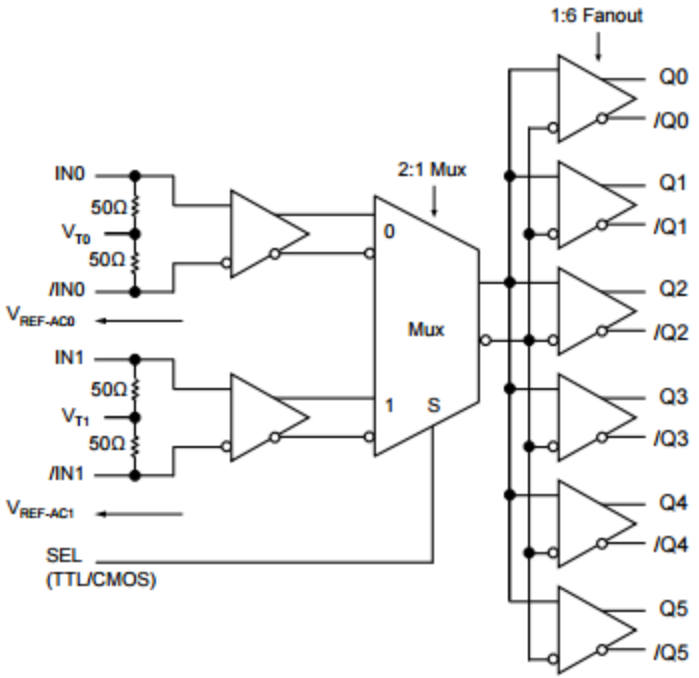
SY58036U

Online Datasheet

Product Tree

Features:

- Provides six ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >6GHz
  - <300ps IN-to-OUT tpd
  - <80ps tr / tf times
  - <20ps skew (output-to-output)
- Ultra-low jitter design:
  - 50fsRMS phase jitter (typ)
- Low supply voltage operation: 2.5V and 3.3V
- Unique input termination and VT pin accepts DC-coupled and AC-coupled inputs (CML, PECL, LVDS)
- Unique input isolation design minimizes crosstalk
- 400mV LVPECL (100K compatible) output swing
- -40°C to +85°C temperature range
- Available in 32-pin (5mm x 5mm) MLF® package



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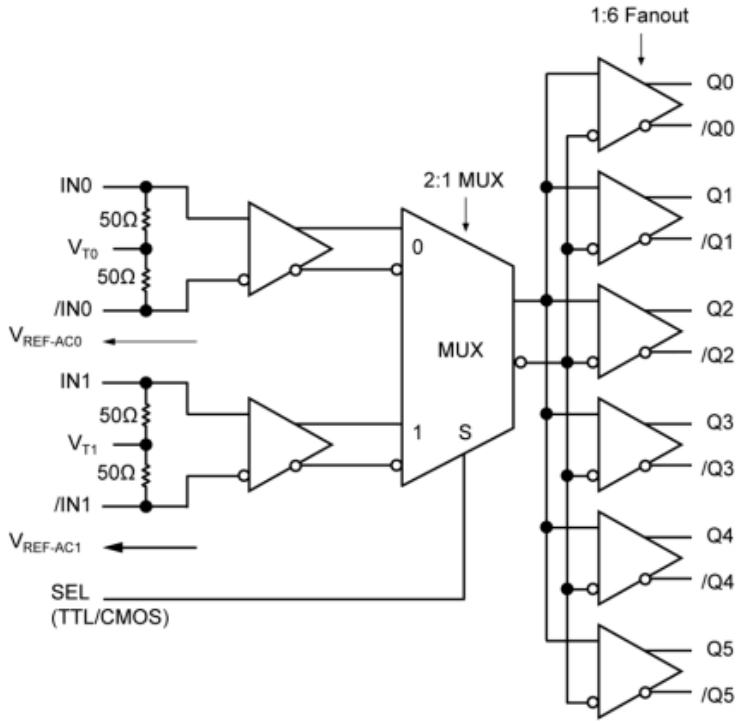
SY89856U

Online Datasheet

Product Tree

Features:

- 6 ultra-low skew copies of the selected input
- 2:1 MUX input included for clock switchover applications
- Low power: 225mW typical (2.5V)
- 2.5V to 3.3V supply voltage
- Unique input isolation design minimizes crosstalk
- Guaranteed AC performance over temperature and voltage:
  - Clock frequency range: DC to >2.0GHz
  - <400ps IN-to-OUT tpd
  - <200ps tr/tf times
  - <30ps skew (output-to-output)
- Ultra-low jitter design:
  - 40fsRMS phase jitter
  - <0.7psRMS crosstalk-induced jitter
- Unique input termination and VT pin accepts DC and AC-coupled inputs (CML, PECL, LVDS)
- 100k LVPECL compatible output swing
- -40°C to +85°C industrial temperature range
- Available in 32-pin (5mm x 5mm) QFN package



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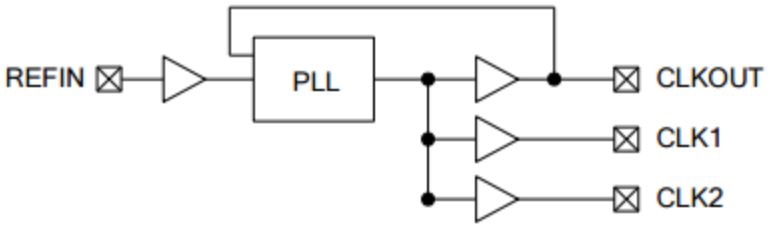
PL102-10

Online Datasheet

Product Tree

Features:

- Frequency Range:
  - 15 to 170MHz @ 3.3V
  - 15 to 145MHz @ 2.5V
- Internal Phase Locked Loop Allows Spread Spectrum Modulation on Reference Clock to Pass to Outputs
- Zero Input to Output Delay
- Less Than 700ps Device to Device Skew
- Less Than 200ps Skew Between Outputs
- Less Than 100ps Cycle to Cycle Jitter
- 2.5V or 3.3V Power Supply
- Available in 8-Pin SOP or 6-pin SOT GREEN/ RoHS Compliant Packages



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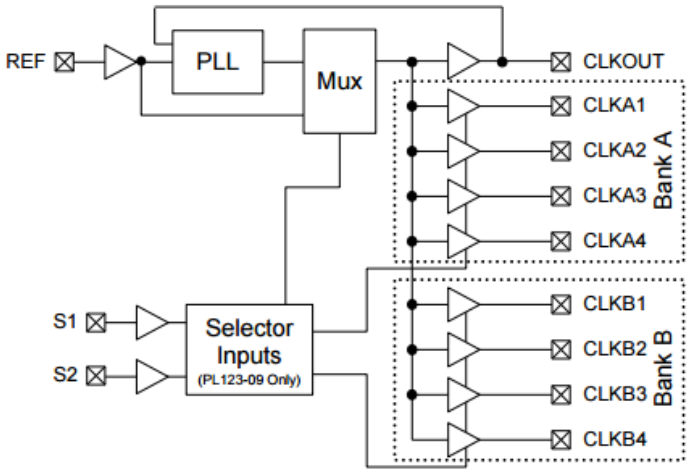
PL123-05

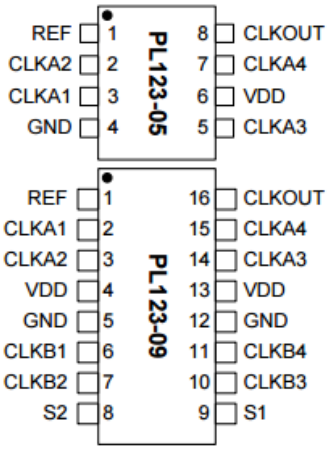
Online Datasheet

Product Tree

Features:

- Frequency Range 10MHz to 134MHz
- Output Options:
  - 5 outputs PL123-05
- Zero input - output delay
- Optional Drive Strength:
  - Standard (8mA) PL123-05/-09
  - High (12mA) PL123-05H/-09H
- 3.3V ±10% operation
- Available in Commercial and Industrial temperature ranges
- Available in 8-Pin SOP packages





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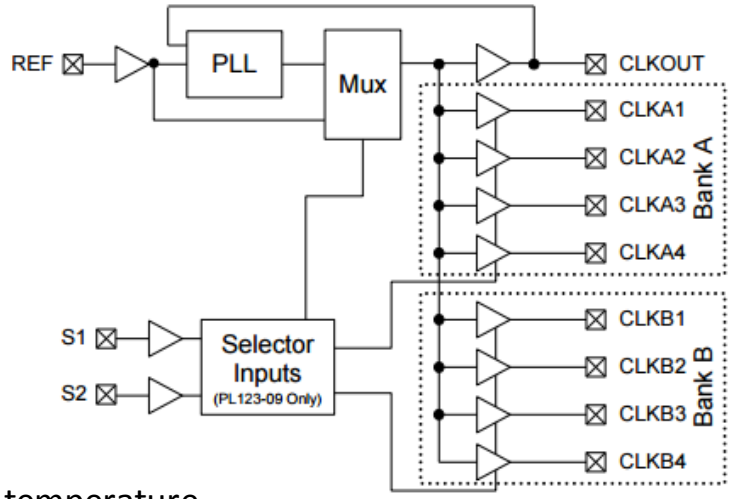
PL123-09

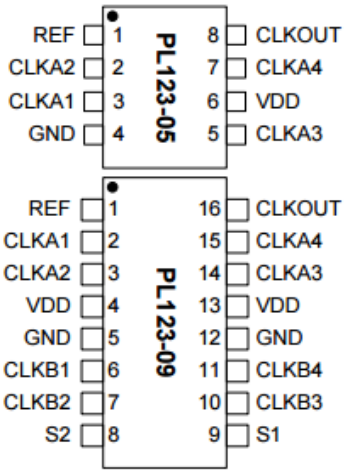
Online Datasheet

Product Tree

Features:

- Frequency Range 10MHz to 134MHz
- Output Options:
  - 9 outputs PL123-09
- Zero input - output delay
- Optional Drive Strength:
  - Standard (8mA) PL123-05/-09
  - High (12mA) PL123-05H/-09H
- 3.3V ±10% operation
- Available in Commercial and Industrial temperature ranges
- Available in 16-Pin SOP or TSSOP packages





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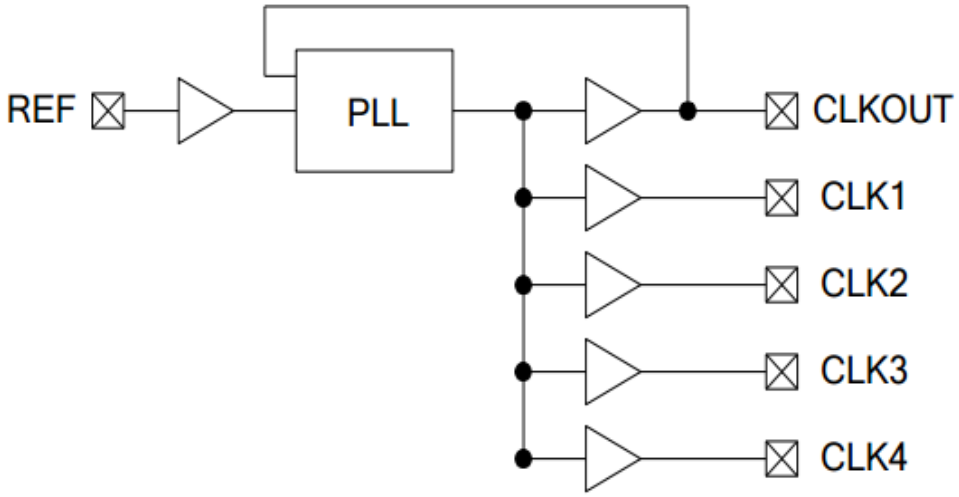
PL123E-05

Online Datasheet

Product Tree

Features:

- Frequency Range 10MHz to 220MHz
- Zero input - output delay
- Low output-to-output skew
- Optional Drive Strength:
  - Standard (8mA) PL123E-05
  - High (12mA) PL123E-05H
- 2.5V or 3.3V ±10% operation
- Available in 8-pin SOP packaging



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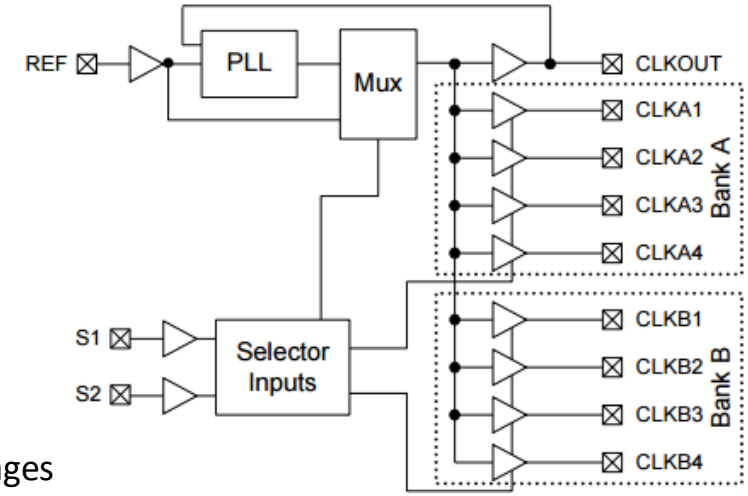
PL123E-09

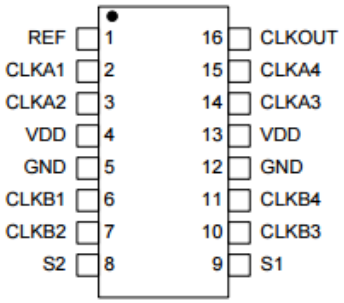
Online Datasheet

Product Tree

Features:

- Frequency Range 10MHz to 220MHz
- Zero input - output delay
- Low output-to-output skew
- Optional Drive Strength:
  - Standard (8mA) PL123E-09
  - High (12mA) PL123E-09H
- 2.5V or 3.3V ±10% operation
- Available in 16-Pin SOP or TSSOP packages





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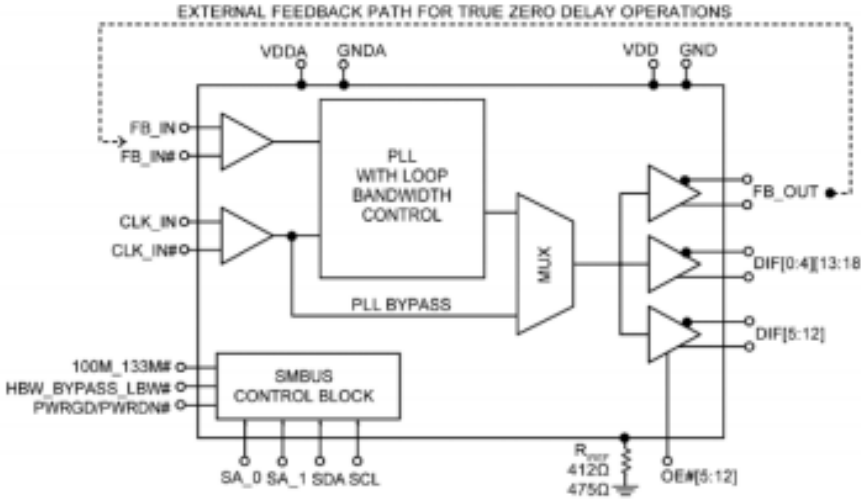
MDB1900

Online Datasheet

Product Tree

Features:

- Supports zero delay (0ps) buffer mode for 100MHz and 133MHz clock frequencies.
- External feedback path for true zero delay operations
- Zero delay (PLL) mode can filter jitter in incoming clock
- Selectable PLL bandwidth for PLL mode
- Supports fanout buffer mode for clock frequencies between 0 and 250MHz
- Differential input reference with HCSL logic (0~0.7V)
- Nineteen differential HCSL-compatible clock output pairs
- Eight dedicated OE# pins to control their assigned output. Glitch free assertion/de-assertion.
- Spread spectrum modulation tolerant for EMI reduction
- SMBus interface for controlling output properties (enable/disable and delay tuning)
- Disabled outputs in power-down mode for maximum power savings
- Nine selectable SMBus addresses so multiple devices can share the same SMBus
- 3.3V or 2.5V operation
- Commercial temperature range (0°C to +70°C)
- 72-pin 10mm × 10mm QFN package
- GREEN, RoHS, and PFOS compliant



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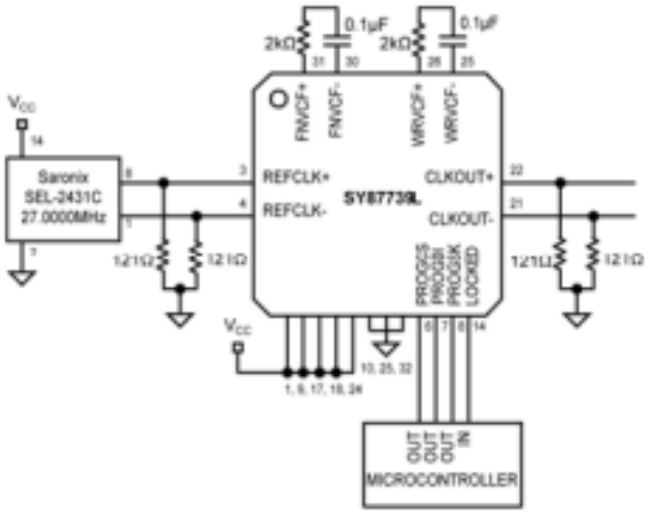
SY87739L

Online Datasheet

Product Tree

Features:

- Protocol transparent fractional-N synthesizer from 10MHz to 729MHz from a single 27MHz reference oscillator
- Generates exactly the correct frequency for common transport protocols with or without FEC
- Directly enables SY87721L CDR to lock onto any data rate within its range
- Exceeds BellCore and ITU jitter generation specifications
- Programmable via MicroWire™ interface
- Available in 32-Pin ePad-TQFP package



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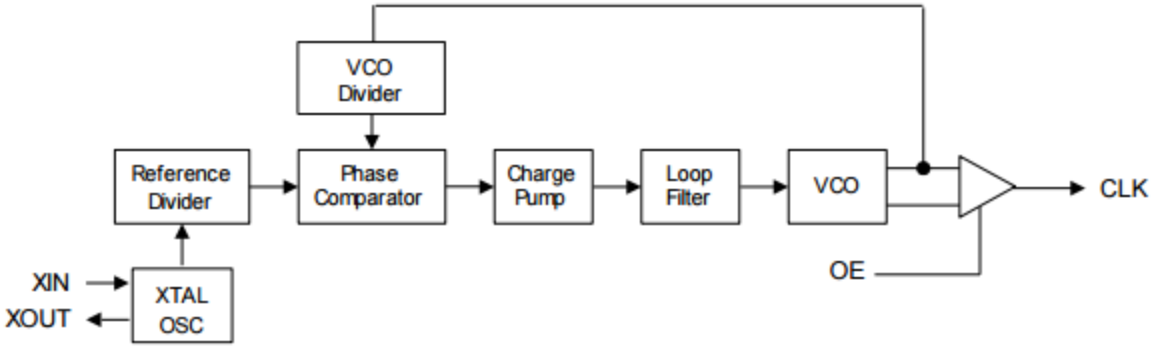
PL602-03

Online Datasheet

Product Tree

Features:

- Low phase noise XO output for the 48MHz to 100MHz range (-130 dBc at 10kHz offset).
- 12 to 25MHz crystal input.
- Integrated crystal load capacitor: no external load capacitor required.
- Selectable High Drive (30mA) or Standard Drive (10mA) output.
- 3.3V operation.
- Available in 8-Pin TSSOP or SOIC.



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PL602-04

Online Datasheet

Product Tree

Features:

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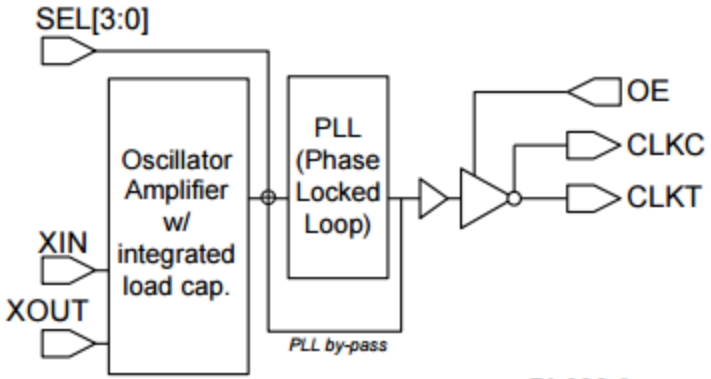
PL602-37

Online Datasheet

Product Tree

Features:

- Selectable 750kHz to 800MHz range.
- Low phase noise output
- -127dBc/Hz for 155.52MHz @ 10kHz offset
- -115dBc/Hz for 622.08MHz @ 10kHz offset LVCMOS (PL602-37), LVPECL (PL602-35 and PL602-38) or LVDS (PL602-39) output.
- 12MHz to 25MHz crystal input.
- No external crystal load capacitors required.
- Output Enable selector.
- Selectable /16 to x32 frequency divider/multiplier.
- 3.3V operation.
- Available in 16-Pin TSSOP or 16-pin 3x3mm QFN GREEN/RoHS compliant packages.



PL602-3x

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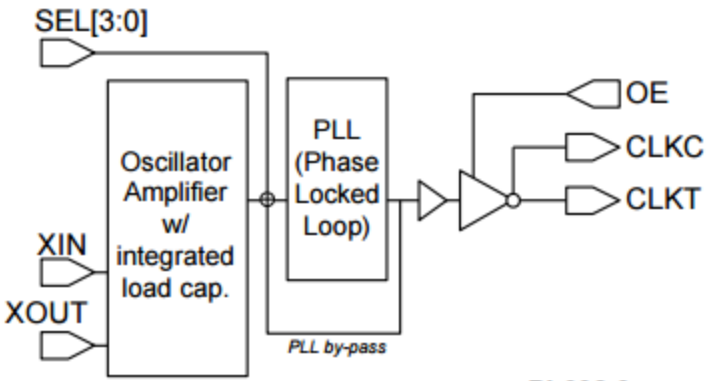
PL602-38

Online Datasheet

Product Tree

Features:

- Selectable 750kHz to 800MHz range.
- Low phase noise output
- -127dBc/Hz for 155.52MHz @ 10kHz offset
- -115dBc/Hz for 622.08MHz @ 10kHz offset LVCMOS (PL602-37), LVPECL (PL602-35 and PL602-38) or LVDS (PL602-39) output.
- 12MHz to 25MHz crystal input.
- No external crystal load capacitors required.
- Output Enable selector.
- Selectable /16 to x32 frequency divider/multiplier.
- 3.3V operation.
- Available in 16-Pin TSSOP or 16-pin 3x3mm QFN GREEN/RoHS compliant packages.



PL602-3x

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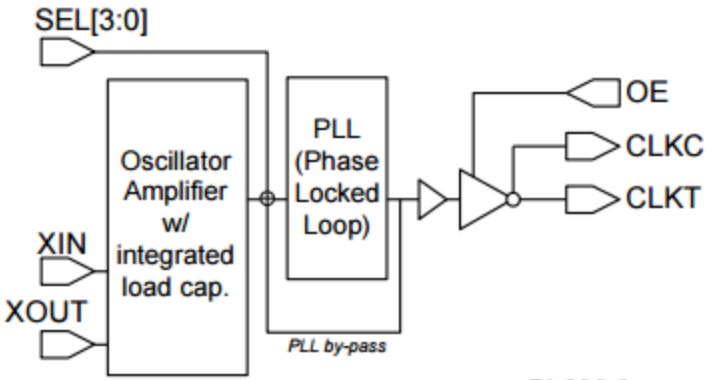
PL602-39

Online Datasheet

Product Tree

Features:

- Selectable 750kHz to 800MHz range.
- Low phase noise output
- -127dBc/Hz for 155.52MHz @ 10kHz offset
- -115dBc/Hz for 622.08MHz @ 10kHz offset LVCMOS (PL602-37), LVPECL (PL602-35 and PL602-38) or LVDS (PL602-39) output.
- 12MHz to 25MHz crystal input.
- No external crystal load capacitors required.
- Output Enable selector.
- Selectable /16 to x32 frequency divider/multiplier.
- 3.3V operation.
- Available in 16-Pin TSSOP or 16-pin 3x3mm QFN GREEN/RoHS compliant packages.



PL602-3x

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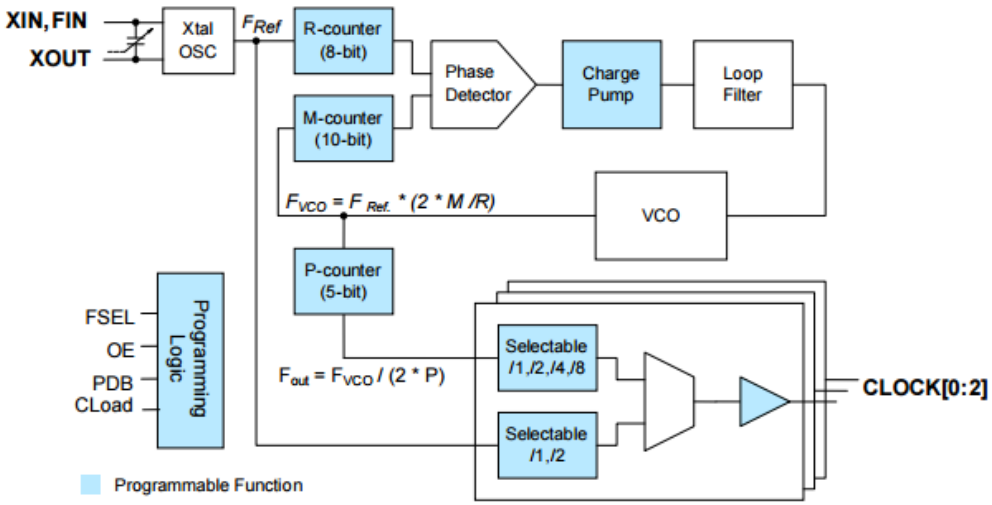
PL611-01

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL design
- Very low Jitter and Phase Noise (30-70ps Pk-Pk typical)
- Up to 3 programmable outputs
- Output frequency up to 200MHz CMOS
- Accepts Crystal or reference clock inputs:
  - Fundamental crystal: 10MHz-30MHz
  - 3RD overtone crystal: Up to 75MHz
  - Reference input: Up to 200MHz
- Accepts <1.0V reference signal input voltage
- One programmable I/O pin can be configured as Programmable clock, or Frequency Selection input, or output Enable (OE) or Power Down (PDB) input
- Supply operating range 2.25V to 3.63V
- Operating temperature range from -40°C to +85°C
- Available in 8-pin MSOP/SOP, and 6-pin SOT Green/RoHS compliant Packages



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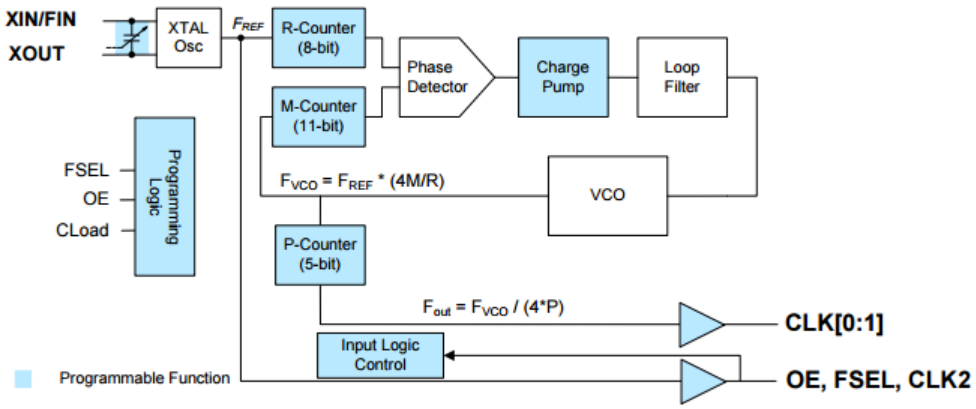
PL611-30

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL design
- Very low Jitter and Phase Noise (<40ps Pk-Pk typ)
- Supports complementary LVCMOS outputs to drive LVPECL and LVDS inputs
- Output Frequencies:
  - ≤400MHz at 3.3V
  - ≤350MHz at 2.5V
- Input Frequencies:
  - Fundamental crystal: 10MHz-30MHz
  - 3RD overtone crystal: Up to 75MHz
  - Reference Input: Up to 200MHz
- Accepts <1.0V reference signal input voltage
- One programmable I/O pin can be configured as Output Enable (OE) input, Frequency Selection (FSEL) input or Reference Clock (CLK2) output
- Single 2.5V or 3.3V ±10% power supply
- Operating temperature range from -40°C to +85°C
- Available in 8-pin MSOP/SOP, and 6-pin SOT Green/RoHS compliant Packages



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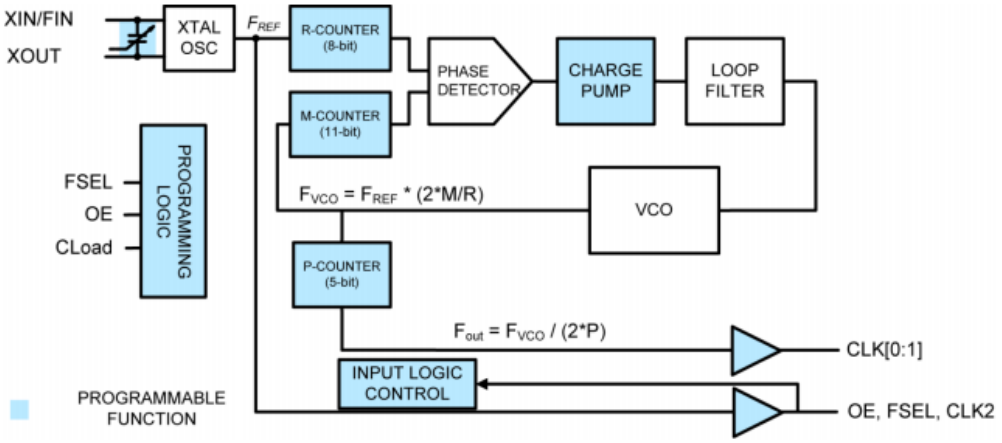
PL611-31

Online Datasheet

Product Tree

Features:

- Advanced programmable PLL design
- Very low jitter and phase noise (<40ps peak-to-peak typical)
- Up to 3 outputs
- Output frequency up to 200MHz CMOS
  - Provides complementary LVCMOS outputs to drive LVCMOS, LVPECL, LVDS, HCSL or CML inputs
- Input frequencies:
  - Fundamental crystal: 10MHz – 30MHz
  - Reference clock: 1MHz – 200MHz
- Accepts <1.0V reference signal input voltage
- One programmable I/O pin can be configured as output enable (OE) input, frequency selection (FSEL) input, or reference clock output
- Single 2.5V ~ 3.3V ±10% power supply
- Operating temperature range from –40°C to +85°C
- Available in 8-pin SOICN, GREEN/RoHS-compliant package



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