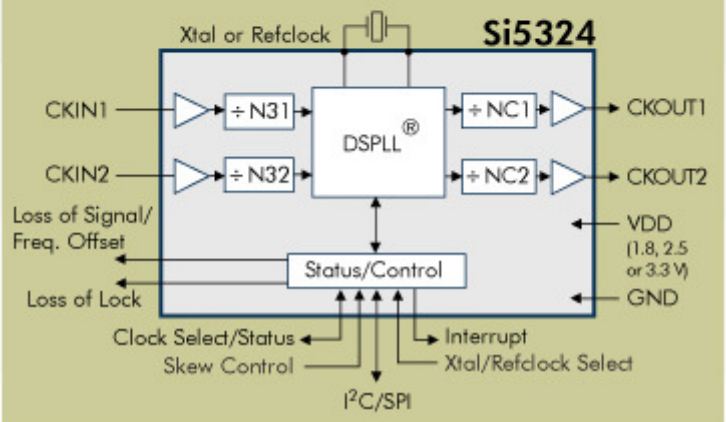
Jitter Attenuating Clocks

Si531x/2x/6x

Silicon Labs' programmable any frequency precision clocks provide clock multiplication, jitter attenuation and clock distribution in high-performance timing applications requiring sub 1 ps jitter performance. The devices accept multiple clock inputs ranging from 2 kHz to 710 MHz and generate multiple independent, synchronous clock outputs ranging from 2 kHz to 945 MHz and select frequencies to 1.4 GHz.

Block Diagram



Features

- Any frequency synthesis
- Ultra-low jitter clock outputs with jitter generation as low as 290 fs rms
- Integrated loop filter with selectable loop bandwidth
- Hitless switching between input clocks
- User-selectable output clock signal format (LVPECL, LVDS, CML, CMOS)
- On-chip voltage regulator for 1.8, 2.5 or 3.3 V ±10% operation
- In-system, flash-based programmable w/small form factor MCU

Applications

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- SONET/SDH OC-48/OC-192 line cards
- GbE/10GbE, 1/2/4/8/10GFC line cards
- ITU G.709 and custom FEC line cards
- Wireless base stations
- Test and measurement
- Data converter clocking
- DSLAM
- Cable infrastructure
- Data acquisition
- Optical modules
- Synchronous ethernet
- Broadcast video and distribution

Product Matrix										
Part Number	Control	Input Type	Clock Inputs	Clock Outputs	Input Frequency (MHz)	Output Frequency (MHz)	RMS Phase Jitter	PLL Bandwidth	Clock Output Format	Package
Si5316	Pin	Clock	2	1	19 to 710	19 to 710	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	6x6mm 36-QFN
Si5317	Pin	Clock	1	2	1 to 710	1 to 710	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	6x6 mm, 36-QFN
Si5319	I2C/SPI	Crystal, Clock	1	1	0.002 to 710	0.002 to 1417	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	6x6mm 36-QFN
Si5323	Pin	Clock	2	2	0.008 to 707	0.008 to 1050	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	6x6mm 36-QFN
Si5324	I2C/SPI	Crystal, Clock	2	2	0.002 to 710	0.002 to 1417	0.3 ps	4 Hz to 525 Hz	LVPECL, LVDS, CML, CMOS	6x6mm 36-QFN
Si5326	I2C/SPI	Crystal, Clock	2	2	0.002 to 710	0.002 to 1417	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	6x6mm 36-QFN
Si5366	Pin	Clock	4	5	0.008 to 707	0.008 to 1050	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	14x14mm 100-TQFP
Si5368	I2C/SPI	Crystal, Clock	4	5	0.002 to 710	0.002 to 1417	0.3 ps	60 Hz to 8.4 kHz	LVPECL, LVDS, CML, CMOS	14x14mm 100-TQFP

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