

LVPECL UHF CLOCK (XO)
SD-A29JXXX-X Series (3.3 Volt)
SD-B29JXXX-X Series (2.5 Volt)

Description

The **SD-X29JXXX Series** of quartz crystal oscillators provides ultra high frequency with LVPECL complementary outputs. The outputs can be Tri-stated for test automation or combining multiple clocks. The device is based on advanced PLL multiplication for higher frequencies, and packaged in a miniature, low profile leadless ceramic SMD package with 6 gold plated pads.

Applications and Features

- Wide frequency range – 0.75MHz to 640.000MHz
- Fiber Channel; 10 GbE; Infiniband; Network Processors; SOHO Routing
- High Reliability - NEL HALT/HASS qualified for crystal oscillator start-up conditions
- Low Phase Noise, Low Jitter
- High shock resistance, to 1000g
- Ultra High Frequency
- Tight frequency stability - ± 20 ppm overall available
- Grounded lid and internal by-pass capacitor reduce EMI
- COTS/Dual use

Creating a Part Number

SD - X 29J X X X - X - FREQ

<p>Package Code</p> <p>SD 6 pad 5x7mm SMD</p>	<p>Input Voltage</p> <p>A 3.3V\pm5%</p> <p>B 2.5V\pm5%</p>	<p>Enable Option</p> <p>H Enable High</p> <p>L Enable Low</p>	<p>Temperature Range, °C</p> <p>A 0 to 50</p> <p>B 0 to 70</p> <p>C -20 to 70</p> <p>D -40 to 85</p> <p>9 Customer specific</p>	<p>Environmental</p> <p>L Contains a level of lead that is in excess of RoHS directive and is not designed for reflow</p> <p>R RoHS compliant</p>	<p>Overall Frequency Stability, ppm</p> <p>E ± 20</p> <p>F ± 25</p> <p>G ± 50</p> <p>H ± 100</p> <p>9 Customer specific</p>
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SD-X29JXXX-X Series Continued
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Rev. H

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Operating Temperature Range	To	-40 to +85	°C
Storage Temperature Range	Tst	-50 to +90	°C
Supply Voltage	Vcc	-0.5 to 4.5	V
Enable/Disable Voltage	Ven/dis	0 to Vcc	V

Electrical Parameters

Parameter	Symb	Conditions, Note	MIN	TYP	MAX	Unit
Nominal Frequency	Fo		0.75		640	MHz
Supply Voltage	Vcc	Code A Code B	3.135 2.375	3.3 2.5	3.465 2.625	V
Supply current	Icc			80	100	mA
Output Logic Type				LVPECL		
Load		Output to Vcc-2V, or Thevenin Equivalent		50		Ohm
Output Levels	Voh Vol	overall	Vcc- 1.025		Vcc- 1.620	V
Duty Cycle (Symmetry)		At 50% of output voltage swing	45/55	50/50	55/45	%
Rise/Fall Time	Tr/Tf	20 to 80, 80 to 20 %		0.5	0.7	ns
Jitter	Integrated	J	Integrated from Phase Noise, 12 KHz to 20 MHz, RMS		0.4	ps
	Wavecrest characterized	Random period,	155 MHz 622 MHz	3.5 6		ps
		Accumul., pk-to-pk	155 MHz 622 MHz	20 40		ps
Phase Noise	£(Δf)	155 MHz	@ 10 Hz @100 Hz @1 KHz @10KHz @100KHz @1MHz @>10M	-60 -90 -120 -130 -128 -144 -150		dBc/Hz
Frequency Stability	ΔF/F	Overall, including initial calibration, temperature, aging 10 years, shock and vibration	See "Creating a Part Number" Not all combinations available, consult factory			ppm
Enable High Option Enabled Disabled		CMOS logic 1 or N/C CMOS logic 0	0.7 Vcc 0		Vcc 0.3 Vcc	V
Enable Low Option Disabled Enabled		CMOS logic 1 or N/C CMOS logic 0	0.7 Vcc 0		Vcc 0.3 Vcc	V

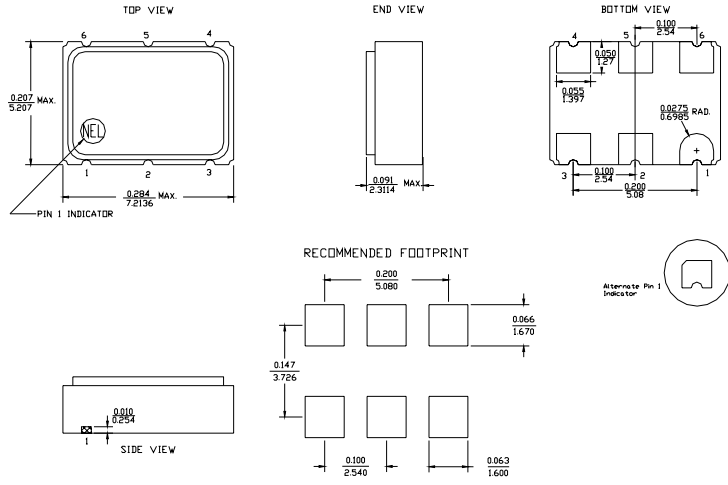


SD-X29JXXX-X Series Continued LVPECL UHF CLOCK (XO)

Electrical Connection

Pin	Connection
1*	Enable/Disable
2*	N.C.
3	V _{EE} /Ground
4	Output
5	/Output
6	V _{CC}

*Consult factory for pin 2 enable



ALL DIMENSIONS: $\frac{IN}{mm}$
All tolerances are 0.005 inches (0.127 mm) unless otherwise specified.

Environmental and Mechanical Characteristics

Operating temp. range	see part # table
Mechanical Shock	Per MIL-STD-202, Method 213, Cond. E
Thermal Shock	Per MIL-STD-883, Method 1011, Cond. A
Vibration	Per MIL-STD-883, Method 2007, Cond. A
Hermetic Seal	Leak rate less than 1×10^{-8} atm.cc/s of helium
Soldering conditions	See MAX reflow profile below

Maximum Reflow Profile

