SaRonix-eCera™

ASSP XO™

Application Specific Crystal Oscillator 7.0 x 5.0mm

3.3V PECL Low Jitter 150MHz SAS-2 XO

SNSAS2150



ASSP XO™ for Networking



7.0 x 5.0mm Ceramic SMD

Product Features

- Very low phase jitter - 0.5ps RMS
- Thicker crystal for improved reliability
- Pb-free & RoHS compliant
- Industrial temperature range

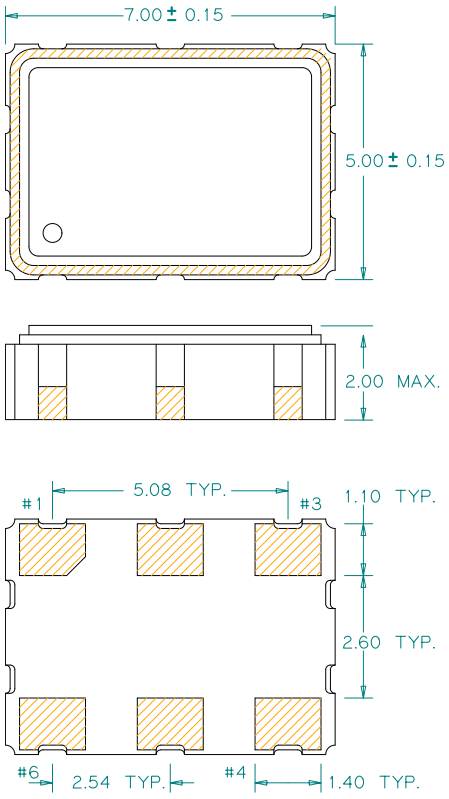
Product Description

The SN series 3.3V, 150MHz crystal clock oscillator achieves superb jitter for Serial Attached SCSI (SAS-1 & SAS-2) applications. The output clock signal, generated internally with a patented oscillator design, is compatible with LVPECL logic levels. The device, available on tape and reel, is contained in a 7.0 x 5.0mm surface-mount ceramic package.

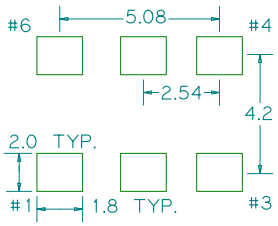
Applications

- SAS-2 Host Bus Adapter (HBA)
- SAS-2 Expander
- SAS-2 RAID System

Package:



Recommended Land Pattern:



Pin Functions:

Pin	Function
1	OE
2	NC
3	V_{EE}
4	Q Output
5	$\overline{Q}$ Output
6	V_{CC}

*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

Part Ordering Information:

SNSAS2150

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		150		MHz	
Supply Voltage	2.97	3.30	3.63	V	
Supply Current, Output Enabled		45	70	mA	
Supply Current, Output Disabled			25	mA	
Frequency Stability			±50	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	
Output Logic 0, V_{OL}			V_{CC} – 1.620	V	0 to +85°C
			V_{CC} – 1.555	V	-40 to 0°C
Output Logic 1, V_{OH}	V_{CC} – 1.025			V	0 to +85°C
	V_{CC} – 1.085			V	-40 to +0°C
Output Load	50Ω to V_{CC} – 2V				output requires termination
Duty Cycle	45		55	%	Measured 50% V_{DD}
Rise and Fall Time		0.3	0.6	ns	Measured 20/80% of waveform
Jitter, Phase RMS (1-σ)		0.2	0.5	ps	12 kHz to 20 MHz frequency band
Jitter, pk–pk		35	50	ps	100,000 random periods

Notes:
1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (5 year at 40°C average effective ambient temperature), shock and vibration.
2. For specifications othere than those listed, please contact sales.

Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin 1), Output Enable	2.2			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.8	V	Outputs disabled to Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			200	ns	
Output Enable Delay			10	ms	

Absolute Maximum Ratings

Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

For the latest product information visit: http://www.pericom.com/products/timing/oscillators/SNSAS2150/

For test circuit go to: http://www.pericom.com/pdf/sre/tc_pecl.pdf

For soldering reflow profile and reliability test ratings go to: http://www.pericom.com/pdf/sre/reflow.pdf

For typical phase noise go to: http://www.pericom.com/pdf/sre/pn_SNSAS2150.pdf

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_7050.pdf