

3.3V CMOS Low Jitter XO



Actual Size = 5 x 7mm



Product Features

- Less than 1.5 ps RMS jitter with non-PLL design
- 3.3V CMOS/TTL compatible logic levels
- Pin-compatible with standard 5x7mm packages
- Designed for standard reflow and washing techniques
- Low power standby mode
- Pb-free and RoHS/Green compliant

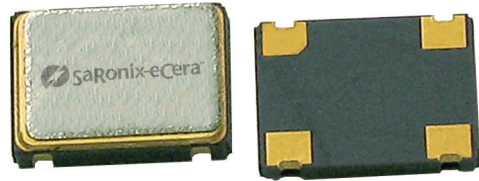
Product Description

The FN Series includes a 3.3V crystal clock oscillator that achieves superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a non-PLL oscillator design, is compatible with LVC MOS/LVTTL logic levels. The device, available on tape and reel, is contained in a 5x7mm surface-mount ceramic package.

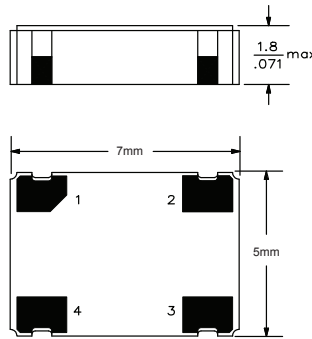
Applications

The FN Series is an ideal reference clock for applications requiring low jitter or tight stability, including:

- Ethernet
- FibreChannel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- T1/E1, T3/E3 linecards
- DSLAM
- 802.11a/b/g WiFi



Packaging Outline



Pin Functions

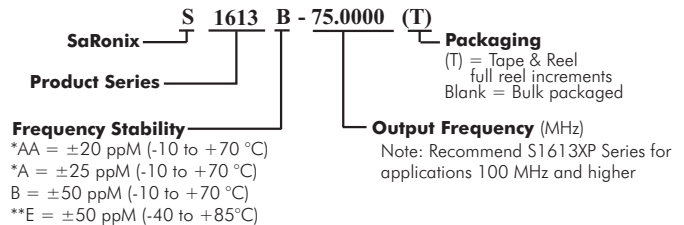
Pin	Function
1	OE Function
2	Ground
3	Clock Output
4	V <sub>DD</sub>

New Part Number Example

FN 750 0001 A = Product Family  
 A B C B = Frequency Code  
 C = Specification Code

Note: After July 1, 2007, a SaRonix - eCera part number following the above format will be assigned upon confirmation of exact customer requirements.

Legacy Ordering Information (for reference only)



\* Availability varies by frequency.

### Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output frequency	1.544		156.25	MHz	As specified
Supply voltage	+2.97	+3.3	+3.63	V	
Supply current, output enabled			15	mA	1.544 to 32 MHz
			25		>32 to 50 MHz
			40		>50 to 80 MHz
			55		>80 to 156.25 MHz
Supply current, standby mode			10	μA	Output Hi-Z
Frequency stability			±20 to ±50	ppM	See Note 1 below
Operating temperature	-40		+85	°C	As specified
Output logic 0, VOL			10% V <sub>DD</sub>	V	
Output logic 1, VOH	90% V <sub>DD</sub>			V	
Output load	15 pF (max) or 10 LSTTL				
Duty cycle (1.544 to 80 MHz)	45		55	%	-40 to +85°C measured 50%VDD
Duty cycle (>80 to 156.25 MHz)	45		55	%	-10 to +70°C measured 50%VDD
Duty cycle (>80 to 156.25 MHz)	40		60	%	-40 to -10°C, +70 to +85°C measured 50%VDD
Rise and fall time	up to 50 MHz		7	ns	measured 20/80% of waveform
	>50 to 80 MHz		5		
	>80 to 125 MHz		3		
	>125 to 156.25 MHz		2		
Jitter, Phase	up to 80 MHz		1.5	ps RMS (1-σ)	10kHz to 20 MHz frequency band
	>80 to 156.25 MHz		1		
Jitter, Accumulated	up to 80 MHz		5	ps RMS (1-σ)	20.000 adjacent periods
	>80 to 156.25 MHz		3		
Jitter, Total	up to 80 MHz		50	ps pk-pk	100.000 random periods
	>80 to 156.25 MHz		30		

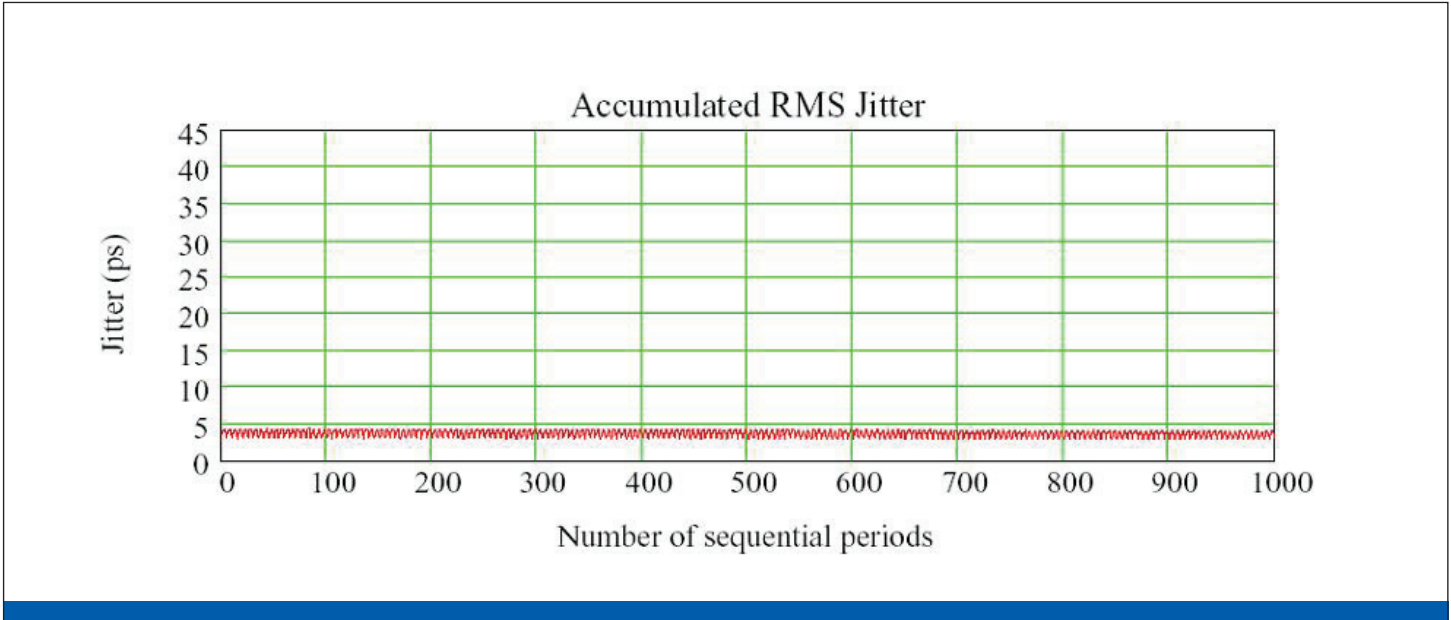
#### Notes:

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

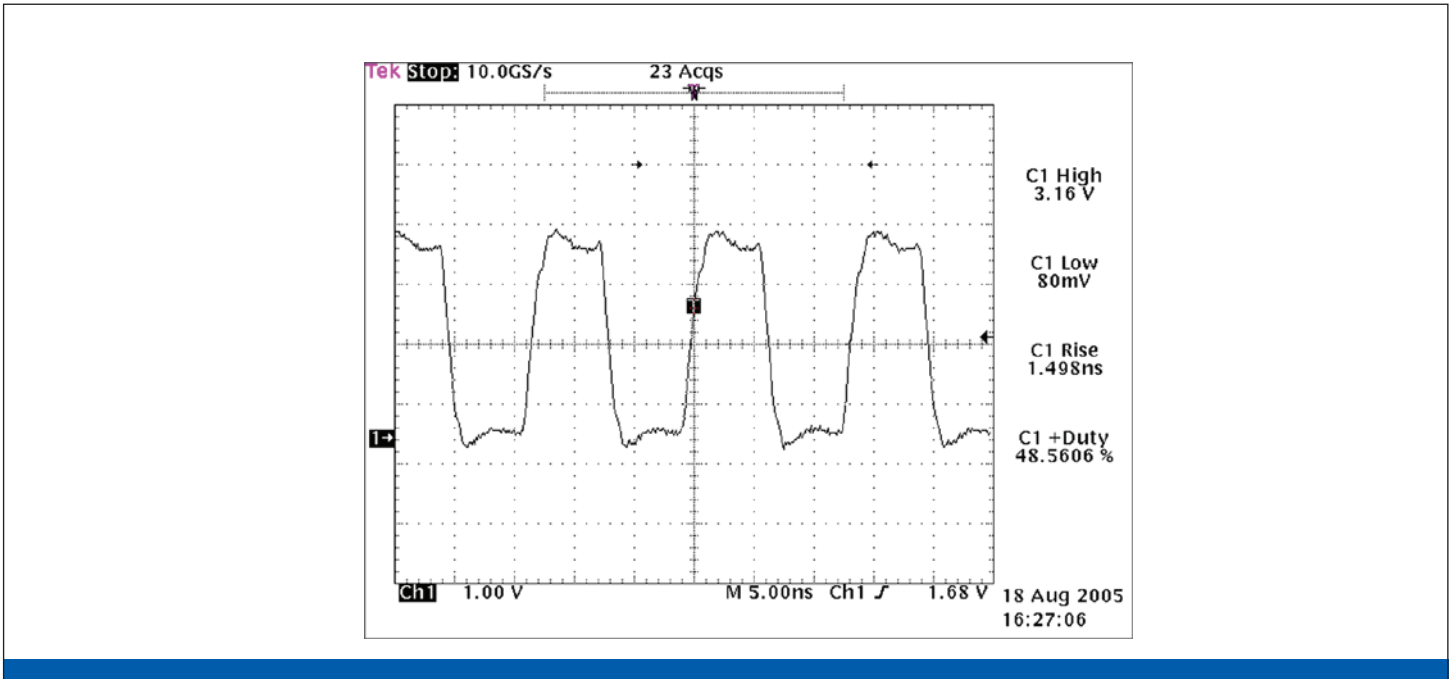
### Output Enable / Disable Function

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	Output is Hi-Z
Internal pullup resistance	50			kΩ	
Output disable delay			100	ns	
Output enable delay			10	ms	

### Typical Accumulated Jitter



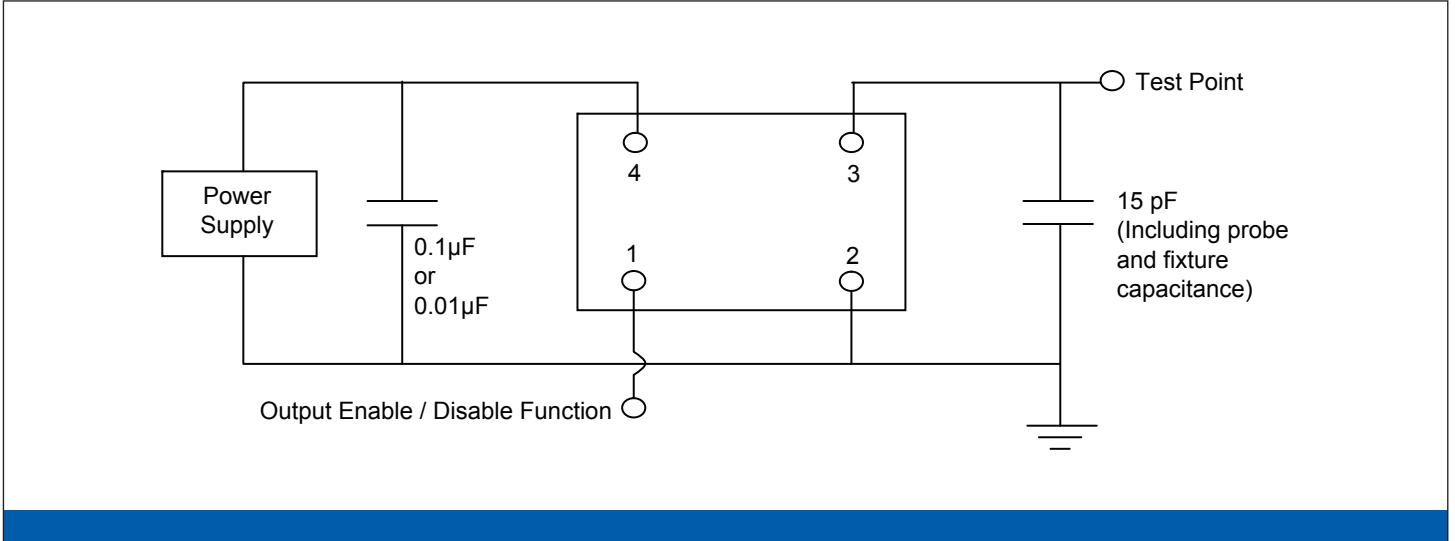
### Typical Output Waveform (75 MHz output)



### Absolute Maximum Ratings

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

### Test Circuit

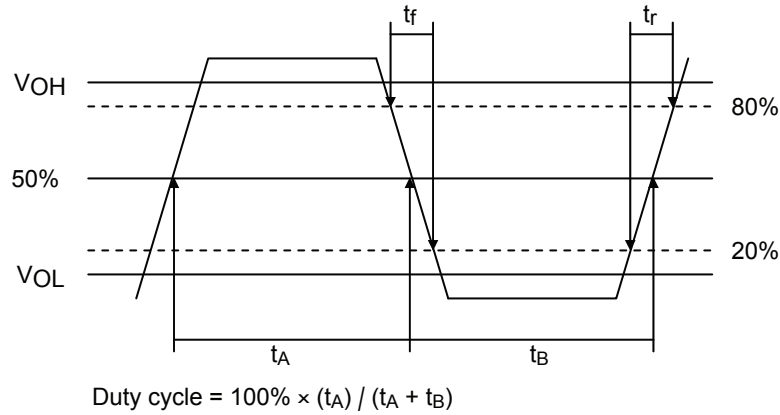


### Reliability Test Ratings

This product is rated to meet the following test conditions:

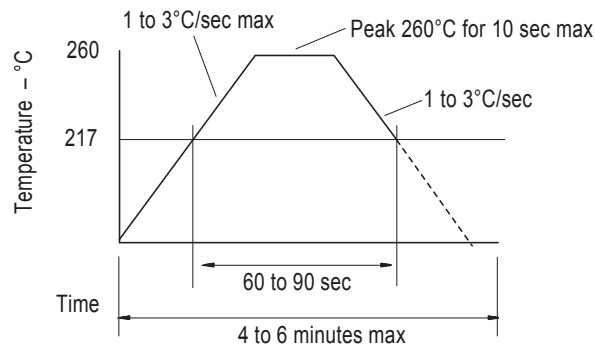
Type	Parameter	Test Condition
Mechanical	Shock	MIL-STD-883, Method 2002, Condition B
Mechanical	Solderability	JESD22-B102-D Method 2 (Preconditioning E)
Mechanical	Terminal strength	MIL-STD-883, Method 2004, Condition D
Mechanical	Gross leak	MIL-STD-883, Method 1014, Condition C
Mechanical	Fine leak	MIL-STD-883, Method 1014, Condition A2 ( $R_1 = 2 \times 10^{-8}$ atm cc/s)
Mechanical	Solvent resistance	MIL-STD-202, Method 215
Environmental	Thermal shock	MIL-STD-883, Method 1011, Condition A
Environmental	Moisture resistance	MIL-STD-883, Method 1004
Environmental	Vibration	MIL-STD-883, Method 2007, Condition A
Environmental	Resistance to soldering heat	J-STD-020C Table 5-2 Pb-free devices (2 cycles max)

### Output Waveform

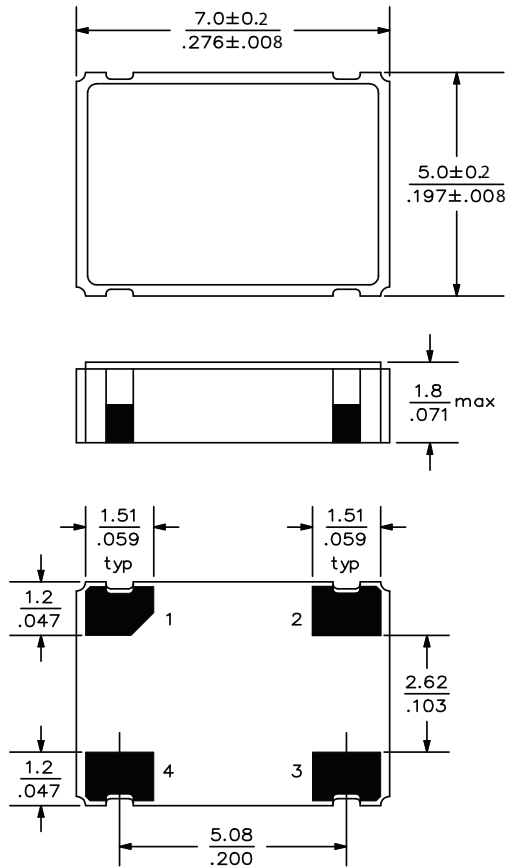


### Reflow Soldering Profile

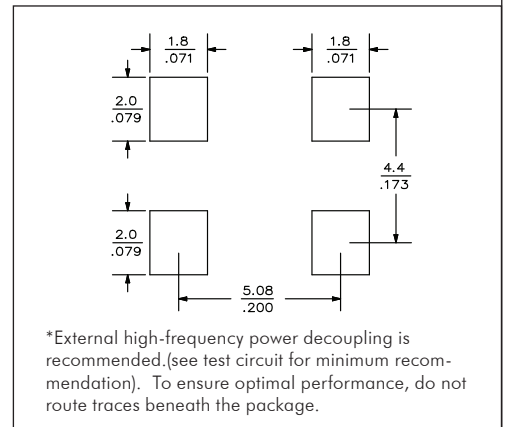
As per IPC/JEDEC J-STD-020C



### Mechanical Drawings



### Recommended Land Pattern\*



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

Scale: None. Dimensions are in mm/inches.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Diodes Incorporated\(达达科技\(美台\)\)](#)