

1.8V CMOS Low Jitter XO





5.0 x 3.2mm Ceramic SMD

Product Features

- 1 to 133 MHz Frequency Range
- <1 ps RMS jitter with fundamental or overtone design
- Low power standby mode
- Pb-free and RoHS/Green compliant

Product Description

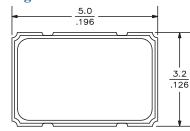
The FD Series 1.8V crystal clock oscillator achieves superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a non-PLL oscillator design, is compatible with LVCMOS/LVTTL logic levels. The device, available on tape and reel, is contained in a 5.0 x 3.2mm surface-mount ceramic package.

Applications

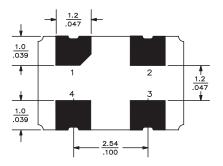
The FD Series is ideal for compact, highdensity applications requiring low jitter or tight stability, including:

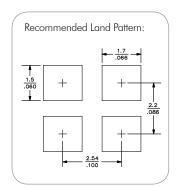
- Ethernet
- Fibre Channel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- T1/E1, T3/E3 linecards
- DSLAM
- 802.11a/b/g WiFi

Package:





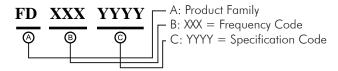




Pin Functions:

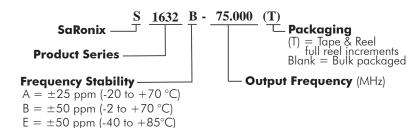
Pin	Function
1	OE Function
2	Ground
3	Clock Output
4	V_{DD}

Part Ordering Information:



Following the above format, Saronix-eCera part numbers will be assigned upon confirmation of exact customer requirements.

Legacy Ordering Information - For Reference Only:



SaRonix-eCera™ is a Pericom® Semiconductor company • US: +1-408-435-0800 TW: +886-3-4518888

· www.saronix-ecera.com





FD Series Crystal Clock Oscillator (XO) Legacy \$1632 Series | 5.0 x 3.2mm

Electrical Performance

P	arameter	Min.	Тур.	yp. Max. Units		Notes	
Output Frequen	су	1		133	MHz	As specified	
Supply Voltage		1.62	1.80	1.98	V		
				15		1 to 32 MHz	
Supply Current, Output Enabled				25	mA	32 to 50 MHz	
	* *			35		50 to 133 MHz	
Supply Current,	Standby Mode			10	μΑ	Output Hi-Z	
Frequency Stabi	lity			±20 to ±50	ppm	See Note 1 below	
On arating Tame	Operating Temperature Range			+70	°C	Commercial (standard)	
Operating reinp				+85		Industrial (standard)	
Output Logic 0,	V _{OL}			10% V _{DD}	V		
Output Logic 1,	V _{OH}	90% V _{DD}			V		
Output Load				15	pF	See Note 2 below	
Duty Cycle		45		55	%	Measured 50% V _{DD}	
	up to 32 MHz			7		Measured 20/80% of waveform	
Rise and Fall Time	32 to 70 MHz			5	ns		
Time	70 to 133 MHz			2.5			
Jitter, Phase	1 to 133 MHz			1	ps RMS (1-σ)	10kHz to 20 MHz frequency band	
Jitter, Accumulated	up to 70 MHz			5	DMC (1 -)	20.000 adjacent periods	
	70 to 133 MHz			3	ps RMS (1-σ)		
Jitter,	up to 70 MHz			50	na ple ple	100,000	
Total	70 to 133 MHz			30	ps pk-pk	100.000 random periods	

Notes:

- 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 othere than those listed, please contact sales.

Output Enable / Disable Function

Parameter	Min.	Тур.	Max.	Units	Notes
Input Voltage (pin 1), Output Enable	0.7			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3	V	Output is Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			100	ns	
Output Enable Delay			10	ms	

Absolute Maximum Ratings

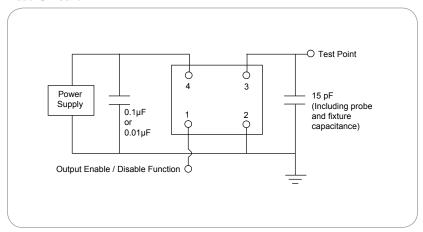
Parameter	Min.	Тур.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	



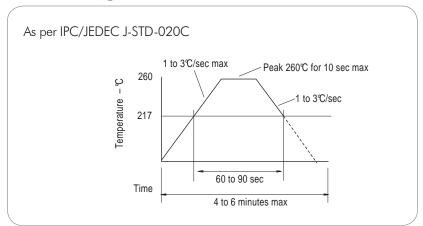


FD Series Crystal Clock Oscillator (XO) **Legacy S1632 Series | 5.0 x 3.2mm**

Test Circuit



Reflow Soldering Profile



Reliability Test Ratings

This product is rated to meet the following test conditions:

Туре	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 ($R_1 = 2x10^{-8}$ 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)

