PXF620010 Datasheet

DiGi Electronics Part Number	PXF620010-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	PXF620010
Description	XTAL OSC XO 156.2500MHZ LVDS SMD
Detailed Description	156.25 MHz XO (Standard) LVDS Oscillator 2.5V Enable/Disable 6-SMD, No Lead

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
PXF620010	Diodes Incorporated
Series:	Product Status:
SaRonix-eCera™ PX	Active
Base Resonator:	Type:
Crystal	XO (Standard)
Frequency:	Function:
156.25 MHz	Enable/Disable
Output:	Voltage - Supply:
LVDS	2.5V
Frequency Stability:	Absolute Pull Range (APR):
±25ppm	-
Operating Temperature:	Current - Supply (Max):
-20°C ~ 70°C	47mA
Ratings:	Mounting Type:
-	Surface Mount
Package / Case:	Size / Dimension:
6-SMD, No Lead	0.276" L x 0.197" W (7.00mm x 5.00mm)
Height - Seated (Max):	Current - Supply (Disable) (Max):
0.079" (2.00mm)	30µA

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8542.39.0001	

SaRonix-eCera™

PX Series Crystal Clock Oscillator (XO)
Legacy SDS382 Series
7.0 x 5.0mm

2.5V LVDS Low Jitter XO

PX

7.0 x 5.0mm Ceramic SMD

Product Features

- 38.88 to 162 MHz Frequency Range
- <1 ps RMS jitter with non-PLL design
- Designed for standard reflow & washing techniques
- IBIS models available
- Pb-free & RoHS/Green compliant

Product Description

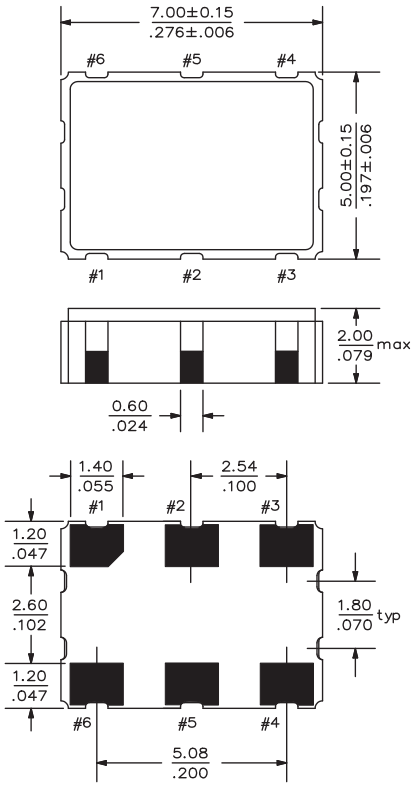
The PX Series 2.5V crystal clock oscillator achieves superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a non-PLL oscillator design, is compatible with LVDS logic levels. The device, available on tape and reel, is contained in a 7.0 x 5.0mm surface-mount ceramic package.

Applications

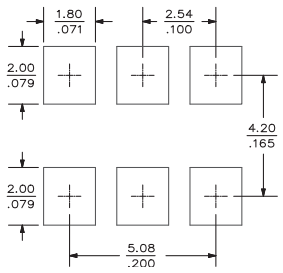
The PX Series is ideal for high-speed applications requiring low jitter, including:

- 1/10 Gigabit Ethernet
- 2/4/10G FibreChannel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- Passive Optical Network (PON) devices
- HD Video Systems

Package:



Recommended Land Pattern:



Pin Functions:

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

Part Ordering Information:

PX XXX YYYY

- A: Product Family
- B: XXX = Frequency Code
- C: YYYY = Specification Code

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

Legacy Ordering Information - For Reference Only:

S DS382 3 B - 156.2500 (T)

- **SaRonix**
- **Product Series**
- **Output Enable/Disable Function**
  0 = N/C pin 1, and pin 2
  3 = OE pin 1, N/C pin 2
  4 = N/C pin 1, OE pin 2
- **Frequency Stability**
  A = ±25 ppm (0 to +70°C)
  B = ±50 ppm (0 to +70°C)
  E = ±50 ppm (-40 to +85°C)
- **Output Frequency** (MHz)
- **Packaging**
  (T) = Tape & Reel full reel increments
  Blank = Bulk packaged

2.5V LVDS Low Jitter XO PX

PX Series Crystal Clock Oscillator (XO)
Legacy SDS382 Series | 7.0 x 5.0mm

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	38.88		162	MHz	As specified
Supply Voltage	2.25	2.50	2.75	V	
Supply Current, Enabled		35	47	mA	
Supply Current, Disabled			0.03	mA	
Frequency Stability			±20 to ±50	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	Commercial (standard)
	-40		+85		Industrial (standard)
Output Logic 0, V_{OL}	0.9	1.1		V	
Output Logic 1, V_{OH}		1.43	1.6	V	
Output Load	100Ω connected between both outputs				output requires termination
Duty Cycle	45		55	%	measured 50% of waveform
Rise and Fall Time		500	850	ps	measured 20/80% of waveform
Jitter, Phase		0.5	1	ps RMS (1-σ)	12kHz to 20MHz frequency band
Jitter, Total			25	ps pk–pk	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.

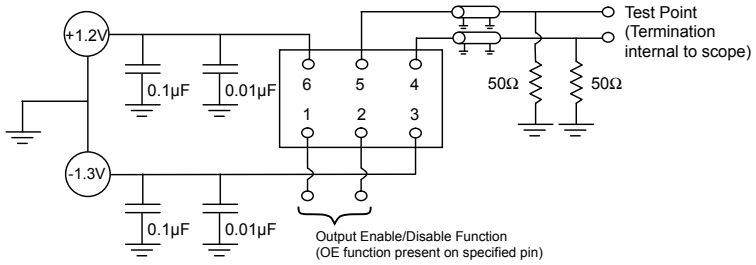
Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin OE), Output Enable	0.7			V	or open
Input Voltage (pin OE), Output Disable (low power standby)			0.3	V	Outpus disabled to Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			200	ns	
Output Enable Delay			10	ms	

Absolute Maximum Ratings

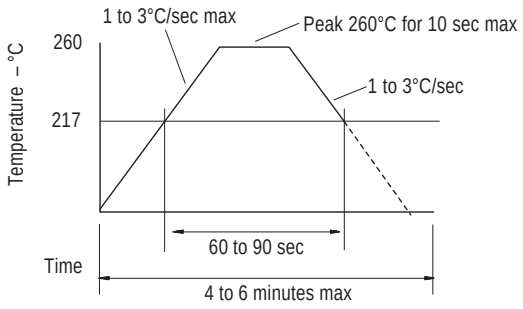
Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

Test Circuit



Reflow Soldering Profile

As per IPC/JEDEC J-STD-020C



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 ($R_1 = 2x10^{-8}$ 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)

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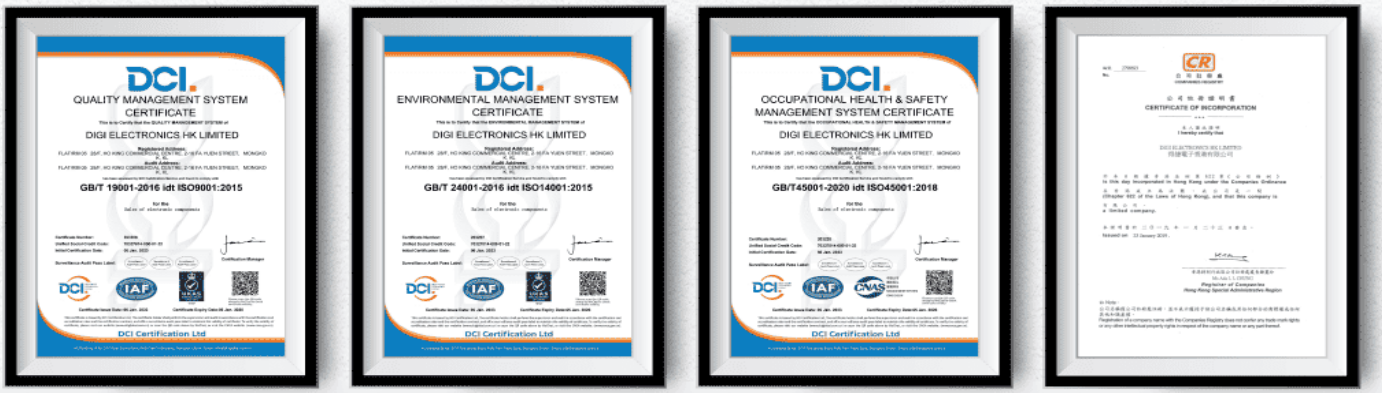

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