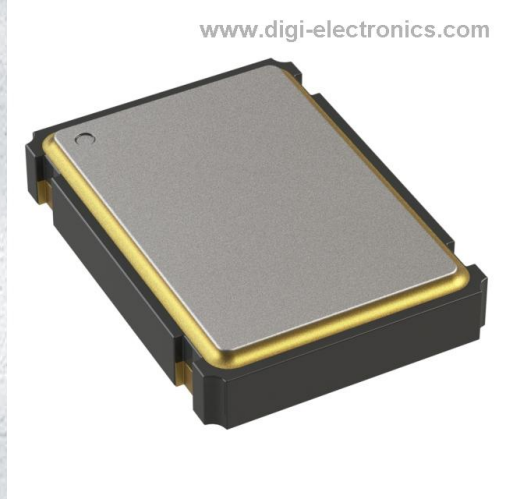
SX10GE156 Datasheet



DiGi Electronics Part Number	SX10GE156-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	SX10GE156
Description	XTAL OSC XO 156.2500MHZ CMOS SMD
Detailed Description	156.25 MHz XO (Standard) CMOS Oscillator 3.3V Enable/Disable 4-SMD, No Lead

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
SX10GE156	Diodes Incorporated
Series:	Product Status:
SaRonix-eCera™ SX	Obsolete
Base Resonator:	Type:
Crystal	XO (Standard)
Frequency:	Function:
156.25 MHz	Enable/Disable
Output:	Voltage - Supply:
CMOS	3.3V
Frequency Stability:	Absolute Pull Range (APR):
±50ppm	-
Operating Temperature:	Current - Supply (Max):
-40°C ~ 85°C	20mA
Ratings:	Mounting Type:
-	Surface Mount
Package / Case:	Size / Dimension:
4-SMD, No Lead	0.276" L x 0.197" W (7.00mm x 5.00mm)
Height - Seated (Max):	Current - Supply (Disable) (Max):
0.071" (1.80mm)	10mA

Environmental & Export classification

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

SaRonix-eCera™

SX Series Crystal Clock Oscillator (XO)
Legacy S1613XP Series
7.0 x 5.0mm

3.3V CMOS Low-Jitter High-Frequency XO

SX

7.0 x 5.0mm Ceramic SMD

Product Features

- 100 to 160 Frequency Range
- <1 ps RMS jitter with advanced non-PLL, patented clock circuit
- ±50ppM accuracy standard for commercial or industrial operating conditions
- RoHS compliant

Product Description

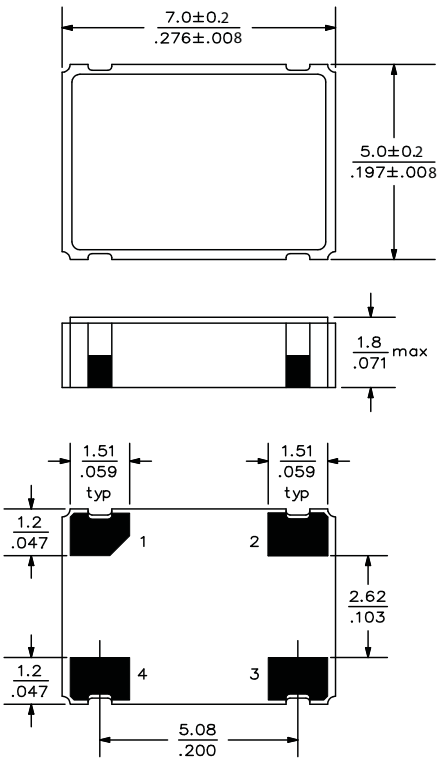
This is an enhanced high-frequency 3.3V crystal clock oscillator with superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a patented oscillator design, is compatible with LVCMOS/LVTTL logic levels.

Applications

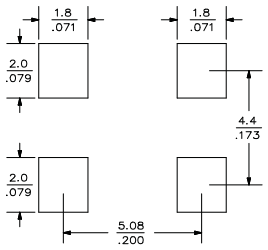
The SX Series is an ideal reference clock for high-speed applications requiring low jitter, including:

- 1/10 Gigabit Ethernet
- Fibre Channel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- Passive Optical Network (PON) devices

Package:



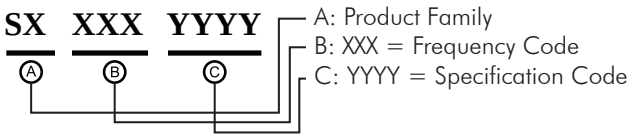
Recommended Land Pattern:



Pin Functions:

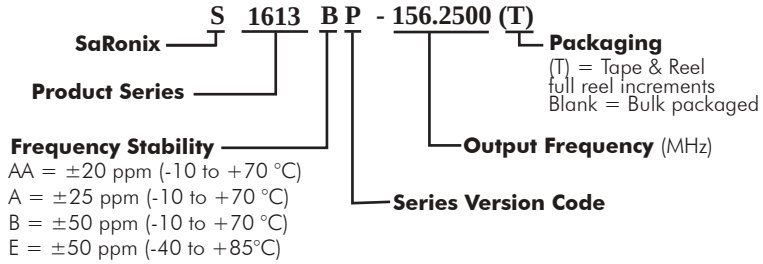
Pin	Function
1	OE Function
2	Ground
3	Clock Output
4	V_{DD}

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:



Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	100		160	MHz	As specified, higher frequencies avail.
Supply Voltage	2.97	3.3	3.63	V	
Supply Current, Output Enabled			30	mA	100 to 160 MHz
Supply Current, Output Disabled			10	µA	Output Hi-Z
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}			10% V_{DD}	V	
Output Logic 1, V_{OH}	90% V_{DD}			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V_{DD}
Rise and Fall Time			2	ns	Measured 20/80% of waveform
Jitter, Phase		0.25	1	ps RMS (1-σ)	10kHz to 20 MHz frequency band
Jitter, Total		25	40	ps pk-pk	100.000 random periods
Subharmonic Level			-40	dBc	

Notes:
1. 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.
2. For specifications othere than those listed, please contact sales.

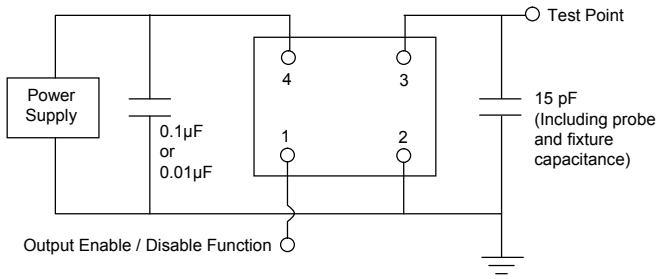
Output Enable / Disable Function

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	Output is Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			100	ns	
Output Enable Delay			1	ms	

Absolute Maximum Ratings

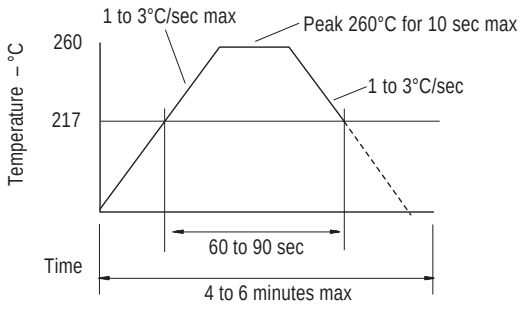
Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

Test Circuit



Reflow Soldering Profile

As per IPC/JEDEC J-STD-020C

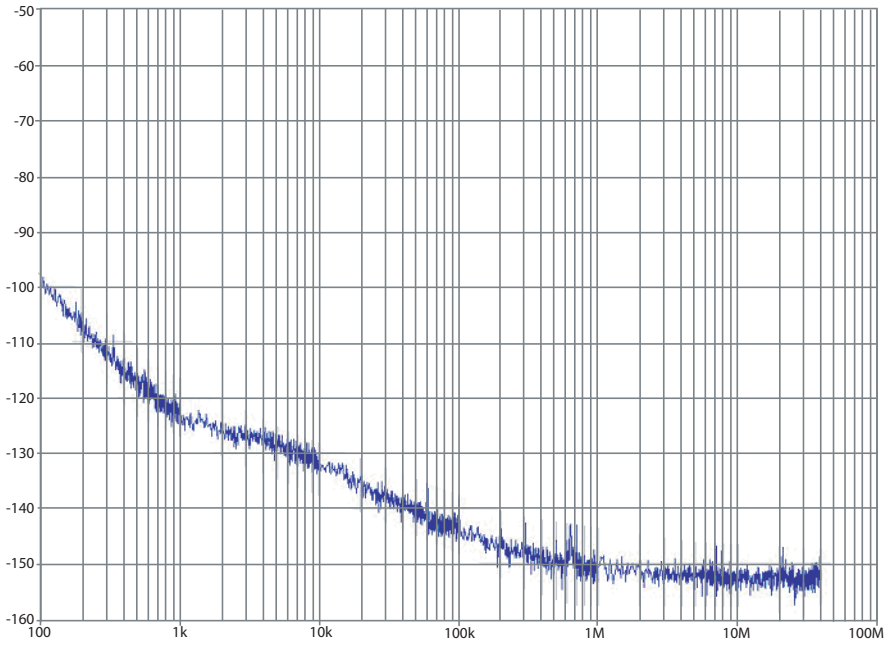


Reliability Test Ratings

This product is rated to meet the following test conditions:

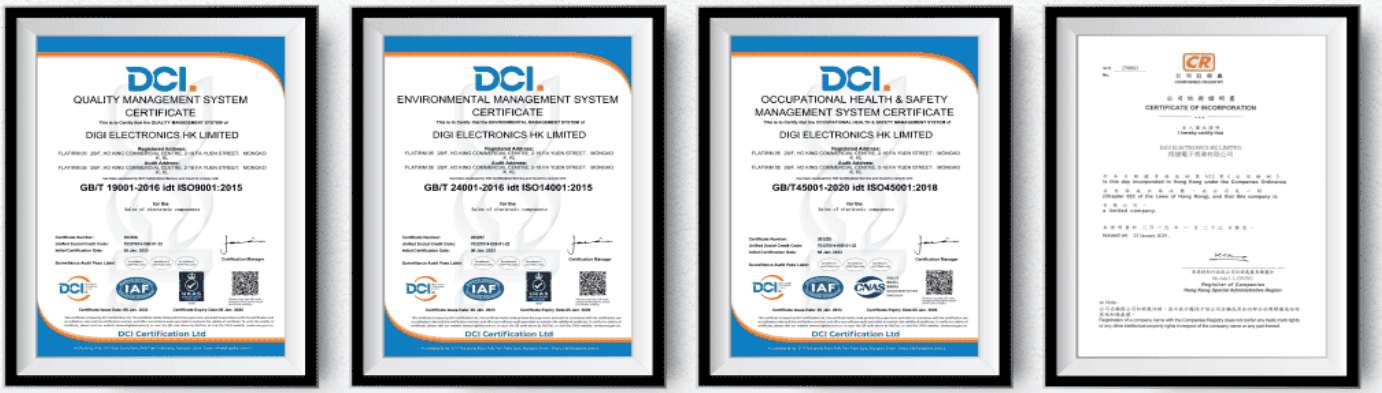
Type	Parameter	Test Condition
Mechanical	Shock	MIL-STD-883, Method 2002, Condition B
Mechanical	Solderability	JESD22-B102-D Method 2 (Preconditioning E)
Mechanical	Terminal strength	MIL-STD-883, Method 2004, Condition D
Mechanical	Gross leak	MIL-STD-883, Method 1014, Condition C
Mechanical	Fine leak	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)

Typical Phase Noise



OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.