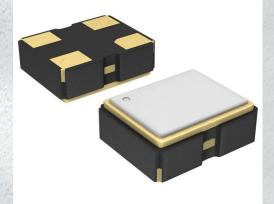


FD1470017 Datasheet

www.digi-electronics.com



DiGi Electronics Part Number	FD1470017-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	FD1470017
Description	XTAL OSC XO 14.7456MHZ CMOS SMD
Detailed Description	14.7456 MHz XO (Standard) CMOS Oscillator 3.3V E nable/Disable 4-SMD, No Lead

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Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:Manufacturer:FD1470017Diodes IncorporatedSeries:Product Status:SaRonix-eCera™FDActiveBase Resonator:Type:CrystalKO (Standard)Frequency:Function:14.7456 MHzEnable/DisableOutput:Voltage - Supply:Crystal3.3VFrequency Stability:Absolute Pull Range (APR):±SOppm-Operating Temperature:Current - Supply (Max):-40°C ~ 85°CSurface MountRatings:Surface Mount-Surface MountPackage / Case:Size / Dimension:4-SMD, No LeadOutput; Supply (Disable) (Max):Height - Seated (Max):Current - Supply (Disable) (Max):-Surface Mount-Surface Mount-Surface Mount-Size / Dimension:-Size /		
Series:Product Status:SaRonix-eCera™FDActiveBase Resonator:Type:CrystalXO (Standard)Frequency:Function:14.7456 MHzEnable/DisableOutput:Voltage - Supply:CMOS3.3VFrequency Stability:Absolute Pull Range (APR):+SOppm-Operating Temperature:ISmA-40°C ~ 85°CSurface Mount-Surface MountPackage / Case:Siz / Dimension:4-SMD, No LeadO197" L x 0.126" W (5.00mm x 3.20mm)Height - Seated (Max):Current - Supply (Max):	Manufacturer Product Number:	Manufacturer:
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Base Resonator:Type:CrystalXO (Standard)Frequency:Function:14.7456 MHzFnable/DisableOutput:Voltage - Supply:CMOS3.3VFrequency Stability:Absolute Pull Range (APR):±50ppm-Operating Temperature:Current - Supply (Max):-40°C ~ 85°CSurface Mount-Surface MountPackage / Case:Size / Dimension:4-SMD, No Lead0.197" L x 0.126" W (5.00mm x 3.20mm)Height - Seated (Max):Current - Supply (Disable) (Max):	Series:	Product Status:
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Height - Seated (Max): Current - Supply (Disable) (Max):	Package / Case:	Size / Dimension:
	4-SMD, No Lead	0.197" L x 0.126" W (5.00mm x 3.20mm)
0.051" (1.30mm) 10μA	Height - Seated (Max):	Current - Supply (Disable) (Max):
	0.051" (1.30mm)	10μΑ

Environmental & Export classification

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



FD Series Crystal Clock Oscillator (XO) Legacy S1633 Series 5.0 x 3.2mm

3.3V CMOS Low Jitter XO





5.0 x3.2mm Ceramic SMD

Product Features

- 1 to 133MHz 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 3.3V 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

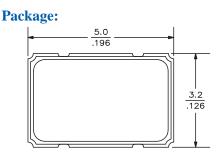
The FD Series is ideal for compact, highdensity applications requiring low jitter or tight stability, including:

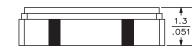
- Ethernet
- EPON
- Fibre Channel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- T1/E1, T3/E3 linecards
- DSLAM
- 802.11a/b/g WiFi

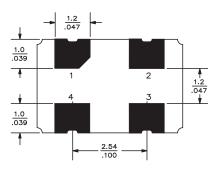
PERICOM

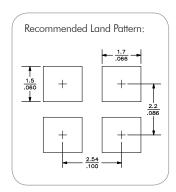
Enabling Serial Connectivity

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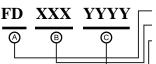




Pin Functions:

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

Part Ordering Information:



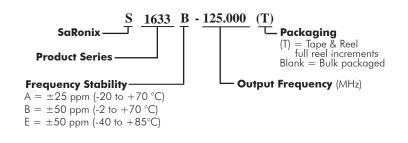
A: Product Family B: XXX = Frequency Code C: YYYY = Specification Code

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1

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

Legacy Ordering Information - For Reference Only:



3.3V CMOS Low Jitter XO FD

SaRonix-eCera

FD Series Crystal Clock Oscillator (XO) Legacy S1633 Series | 5.0 x 3.2mm

Electrical Performance

	Parameter	Min.	Тур.	Max.	Units	Notes
Output Frequen	су	1		133	MHz	As specified
Supply Voltage		2.97	3.30	3.63	V	
				15		1 to 50 MHz
Supply Current,	Output Enabled			25	mA	50 to 80 MHz
				45	_	80 to 133 MHz
Supply Current,	Standby Mode			10	μΑ	Output Hi-Z
Frequency Stabi	ility			±20 to ±50	ppm	See Note 1 below
On aroting Tamp	aratura Danga	-20		+70	°C	Commercial (standard)
Operating Temp	lerature Kange	-40		+85		Industrial (standard)
Output Logic 0,	VOL			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}
D' 1011	up to 40 MHz			7		
Rise and Fall Time	40 to 80 MHz			5	ns	Measured 20/80% of waveform
Time	80 to 133 MHz			2.5		
Jitter, Phase	1 to 133 MHz			1	ps RMS (1-o)	10kHz to 20 MHz frequency band
Jitter,	up to 80 MHz			5	ps RMS (1-σ)	20,000 adjacent periods
Accumulated	80 to 133 MHz			3		20.000 adjacent periods
Jitter,	up to 80 MHz			50	na nlt nlt	100 000 random pariada
Total	80 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	2.0			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.5	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	

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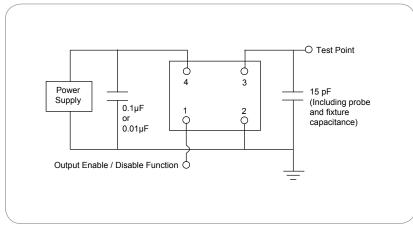


3.3V CMOS Low Jitter XO FD

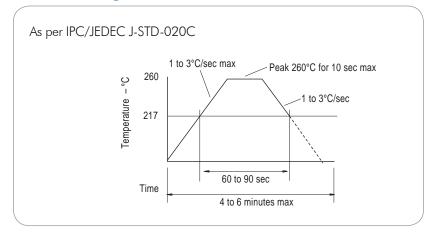
SaRonix-eCera

FD Series Crystal Clock Oscillator (XO) Legacy S1633 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)

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