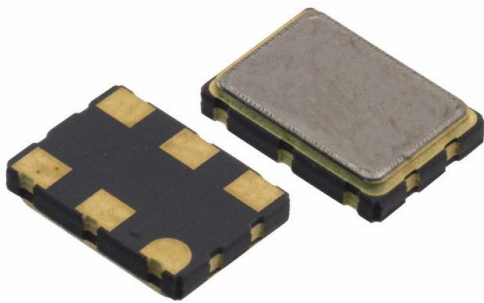


YNETHE125 Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	YNETHE125-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	YNETHE125
Description	XTAL OSC VCXO 125.0000MHZ CMOS
Detailed Description	125 MHz VCXO CMOS Oscillator 3.3V Enable/Disable 6-SMD, No Lead

This model YNETHE125 is available at DiGi Electronics.

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RFQ Email: Info@DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:

YNETHE125

Series:

SaRonix-eCera™ ASSP VCXO

Base Resonator:

Crystal

Frequency:

125 MHz

Output:

CMOS

Frequency Stability:

±50ppm

Operating Temperature:

-40°C ~ 85°C

Ratings:

-

Package / Case:

6-SMD, No Lead

Height - Seated (Max):

0.061" (1.55mm)

Manufacturer:

Diodes Incorporated

Product Status:

Obsolete

Type:

VCXO

Function:

Enable/Disable

Voltage - Supply:

3.3V

Absolute Pull Range (APR):

±50ppm

Current - Supply (Max):

20mA

Mounting Type:

Surface Mount

Size / Dimension:

0.276" L x 0.197" W (7.00mm x 5.00mm)

Current - Supply (Disable) (Max):

-

Environmental & Export classification

RoHS Status:

RoHS Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

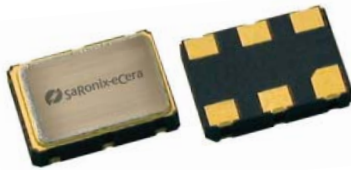
EAR99



YN Series Voltage Controlled Crystal Oscillator (VCXO)
Legacy ST1317 Series
7.0 x 5.0mm

3.3V CMOS Ultra Low Jitter VCXO

YN



7.0 x 5.0mm Ceramic SMD

Product Features

- 32 - 125MHz Frequency Range
- Cost-effective design
- Commercial and industrial operation
- ±50 ppm stability (or as specified)
- ±50 to ±100 ppm absolute (net) pull range
- RoHS Compliant

Product Description

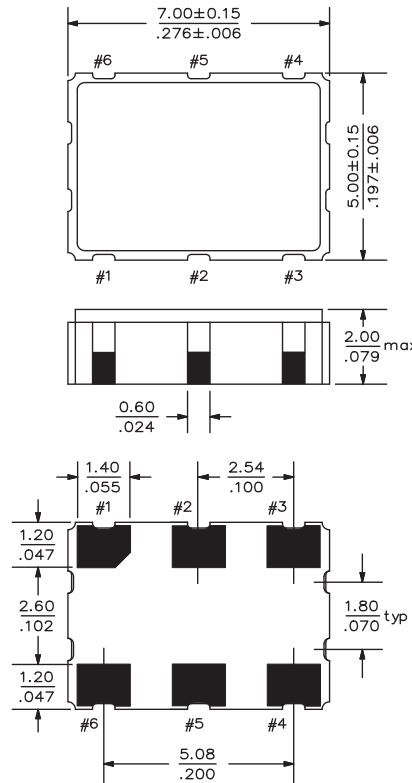
The YN is a voltage controlled crystal oscillator with wide pullability over a broad range of operating conditions and frequencies. The device is constructed with a hermetically sealed, quartz crystal resonator and low noise clock IC. The device, available on tape and reel, is contained in a 7.0 x 5.0mm ceramic package.

Applications

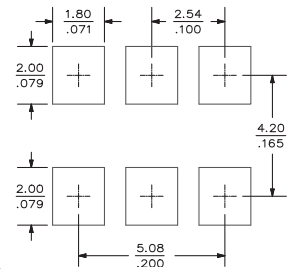
The YN Series VCXO is an ideal component in phase locked loop circuits that perform clock smoothing, clock/data recovery, or frequency translation and card synchronization functions, such as:

- SD/HD Video decoding
- SONET/SDH timing control and line cards
- T3/E3 Platforms
- Satellite and microwave communications
- Wireless base stations
- xDSL and DSLAM
- VoIP

Package:



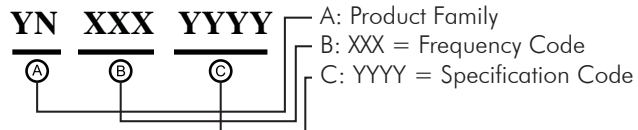
Recommended Land Pattern:



Pin Functions:

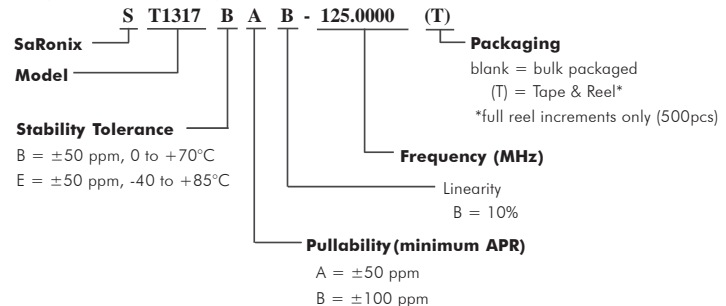
Pin	Function
1	Voltage Control
2	OE or NC
3	V _{EE}
4	Output
5	NC
6	V _{CC}

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:



3.3V CMOS Ultra Low Jitter VCXO **YN**

YN Series Voltage Controlled Crystal Oscillator (VCXO) Legacy ST1317 Series | 7.0 x 5.0mm

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency (F_N)	32.0		125.0	MHz	As specified
Supply Voltage	+2.97	+3.3	+3.63	V	
Supply Current			35	mA	
Frequency Stability			± 50	ppm	See #1 and #2 below
Operating Temperature Range	-40		+85	$^{\circ}\text{C}$	As specified
Output Logic 0, V_{OL}			10% V_{DD}	V	Capacitive load
			20% V_{DD}	V	AC coupled load
Output logic 1, V_{OH}	90% V_{DD}			V	Capacitive load
	80% V_{DD}			V	AC coupled load
Output Load			30	pF	Up to 80 MHz
			95	Ω AC	Up to 125 MHz
Duty Cycle	45		55	%	measured 50% V_{DD} (0 to +70 $^{\circ}\text{C}$)
	40		60	%	measured 50% V_{DD} (-40 to +85 $^{\circ}\text{C}$)
Rise and Fall Time			4	ns	measured 20/80% V_{DD}
Jitter, Total			100	ps pk-pk	
			20	ps RMS	
Phase Noise		-95		dBc/Hz	100 Hz offset
		-110		dBc/Hz	1 kHz offset
		-100		dBc/Hz	10 kHz offset

Notes:

- Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25 $^{\circ}\text{C}$), aging (5 year at 40 $^{\circ}\text{C}$ average effective ambient temperature), shock and vibration.
- For specifications other than those listed, please contact sales.

Frequency Modulation Function

Parameter	Min.	Typ.	Max.	Units	Notes
Absolute Pull Range (APR)	± 50 to ± 100			ppm	See #1 below
Control Voltage Range	+0.3		+3.0	V_{DC}	As rated
Center Control Voltage		+1.65		V	For RMT center frequency
Monotonic Linearity			10	%	Positive transfer slope
Input Impedance	50			k Ω	Control voltage pin
Modulation Bandwidth	50			kHz	-3dB

Notes:

- As specified. APR is relative to the nominal output frequency F_N ; APR is inclusive (net) of frequency deviation due to stability.

3.3V CMOS Ultra Low Jitter VCXO YN

YN Series Voltage Controlled Crystal Oscillator (VCXO) Legacy ST1317 Series | 7.0 x 5.0mm

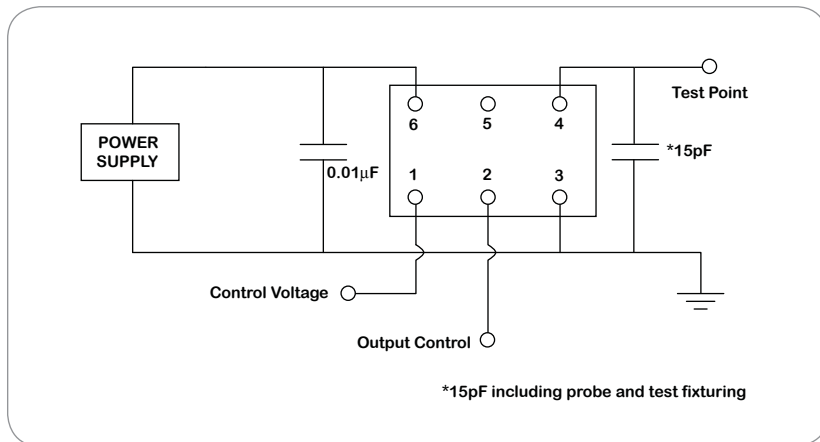
Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage, Output Enable	3.0			V	or open
Input Voltage, Output High Impedance			0.3	V	Output is high impedance

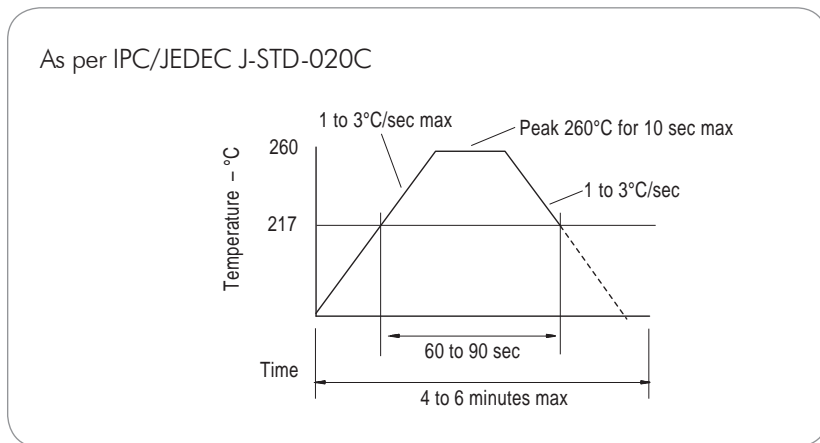
Absolute Maximum Ratings

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

Test Circuit



Reflow Soldering Profile



3.3V CMOS Ultra Low Jitter VCXO YN

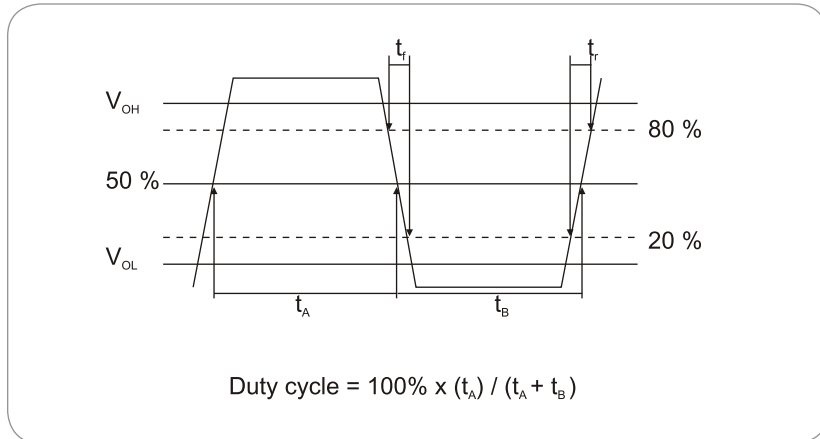
YN Series Voltage Controlled Crystal Oscillator (VCXO) Legacy ST1317 Series | 7.0 x 5.0mm

Reliability Test Ratings

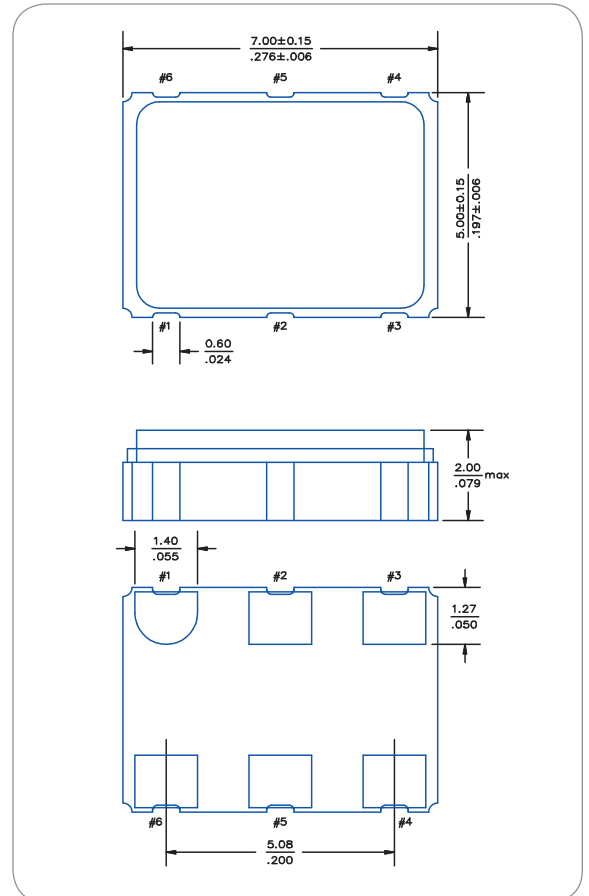
This product is rated to meet the following test conditions:

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



Mechanical Drawing



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