GREENRAY
frequency control solutions

T1237

tcxo

LOW PHASE NOISE
TIGHT STABILITY

Product Description

Greenray Industries' T1237 TCXO is a low phase noise super stable frequency reference for high shock and high vibration environments.

Features

- Available from 50 MHz to 120 MHz
- Rugged 17.3 mm sq. package
- +5 VDC Supply
- Dual output available: Sine and CMOS
- Temperature Stability to ±0.5 ppm (-40 to +85°C)
- Low phase noise
- Low power consumption
- Ideal for Wireless and Mobile applications

Applications

- Telecommunications
- Mobile radio
- Mobile instrumentation
- Airborne communications
- Wireless communications
- Microwave receiver

REV: B

Greenray Industries, Inc., 840 West Church Road, Mechanicsburg, PA 17055
TEL: 717-766-0223 FAX: 717-790-9509 e-mail: sales@greenrayindustries.com
www.greenrayindustries.com

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T1237 SERIES
50 MHz to 120 MHz

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Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	@ +25°C	50		120	MHz	(FREQ.)
Frequency Stability	-40°C to +85°C		± 0.5		ppm	T57
	-40°C to +85°C		± 1.0		ppm	T16
	-55°C to +95°C		± 3.0		ppm	V36
Absolute Pull Range	All conditions 10 years			± 5.0	ppm	
Aging	1st year			± 1.0	ppm	
Frequency vs Voltage	For a 5% change			± 0.3	ppm	
Frequency vs Load	For a 5% change			± 0.1	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 5.0		ppm	

Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 100 MHz Nom. Freq.	10		-70		dBc/Hz	
	100		-100		dBc/Hz	
	1 k		-140		dBc/Hz	
	10 k		-155		dBc/Hz	
	100 k		-162		dBc/Hz	
	Floor		-165		dBc/Hz	

DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage		4.75	5.0	5.25	Vdc	E
Supply Current				30	mA	

RF Output						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
CMOS						C
Load			15		pF	
Level		0.8 Vdd "1" Level		0.2 Vdd "0" Level	V	
Symmetry		40	50	60	%	
Sinewave						S
Output Power	50 Ω Load	+ 2	+ 5	+ 7	dBm	
Harmonics				-20	dBc	
Sub-Harmonics				-20	dBc	

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Environmental and Mechanical Specifications				
Test	Standard	Method	Condition	Description
Vibration	MIL-STD-202F	214	I.F	0.3 PSD, 20.71 g RMS, 3min/axis
Shock	MIL-STD-202F	213	F	1,500 g peak, half sine, 0.5 ms

Recommendations and General Information	
Parameter	Notes
Operating Temperature	-55°C to +95°C
Storage Temperature	-55°C to +105°C
Terminal Finish	ENIG, Au (RoHS) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	< 3 grams
Soldering Instruction	Hand Solder, Reflow
Shipping	Tape & Reel
Marking	GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available

Ordering Example

T1237 - T 57 - C - SG - 80.0 MHz

Model	Temp. Range	Stability	Output	G-Sensitivity	Freq. (MHz)
	T: -40 to +85°C U: -55 to +85°C V: -55 to +95°C	57: ±0.5ppm 16: ±1ppm 26: ±2ppm 36: ±3ppm	C: CMOS S: Sinewave	SG: < 2.5 ppb/g LG: < 2.0 ppb/g ULG: < 1.5 ppb/g HG: Customer-specific	50 - 120

The Order ID (T1237-T57-C-SG-80.0MHz) is only used to issue the preliminary quote. The Part Number (T52-1) for the quoted Electrical Characteristics, Screenings, and other options, will be provided with the Greenray Sales Order.

Other specification options are available, please use the contact information below for more information.

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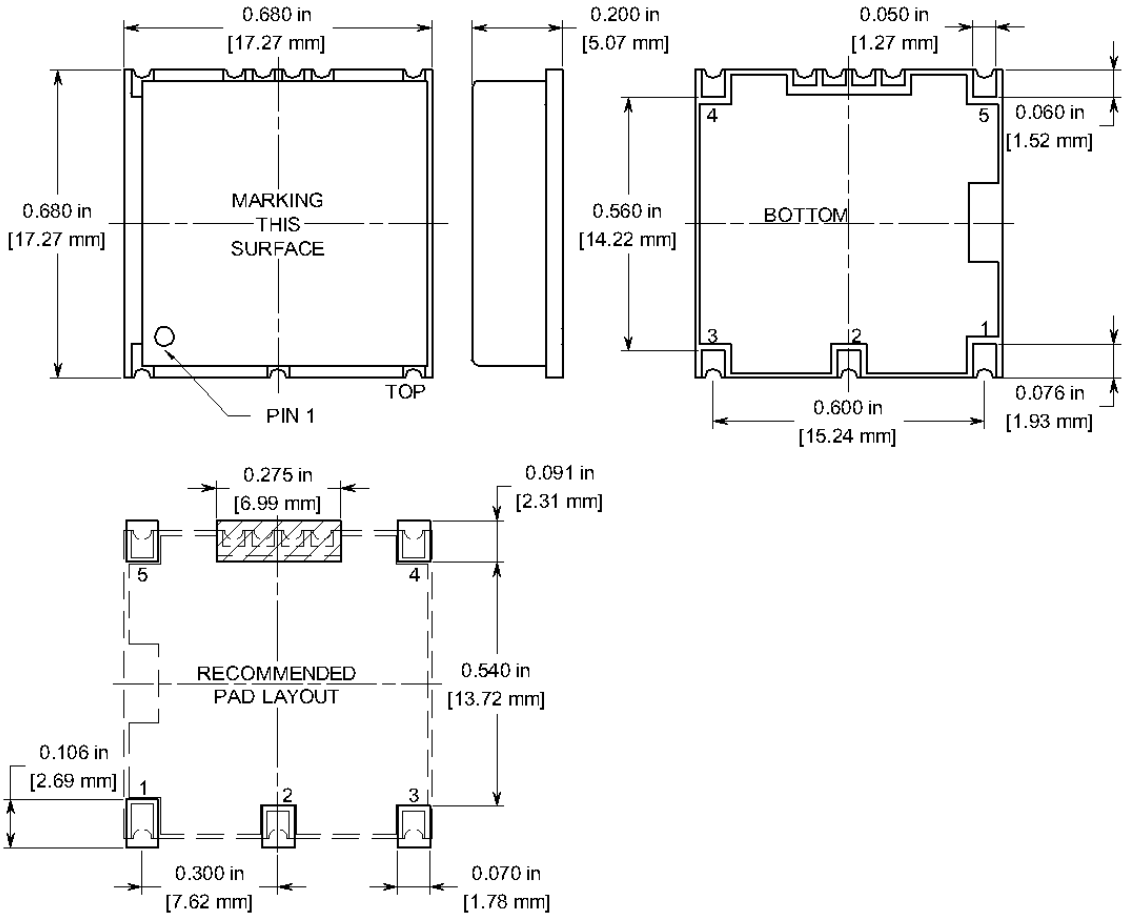
Package Information



PAD CONNECTIONS	
1	OUTPUT
2	NO CONNECT (NC)
3	SUPPLY VOLTAGE (Vdd)
4	NO CONNECT (NC)
5	GND

(NC Pads may have internal connections and should be isolated)

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