



frequency control solutions

T1241

LOW PHASE NOISE
VIBRATION COMPENSATED

tcxo

Product Description

Greenray Industries' T1241 TCXO offers ultra low acceleration sensitivity for reliable phase noise performance in high vibration and shock sensitive applications. Under high shock and vibration conditions the T1241 offers superior phase noise performance and features a rugged, go-anywhere package.



Features

- Excellent phase noise performance under high shock/high vibration conditions
- Rugged package for high reliability; ideally suited for mobile applications.
- g-Sensitivity down to 0.07 ppb/g applied acceleration force
- Frequency: 10 – 100 MHz
- Voltage Control for precise tuning or phase locking apps
- 17.3 mm sq. package
- +3.3 or +5 VDC Supply
- CMOS output

Applications

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

REV: J



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T1241 SERIES
10 MHz to 100 MHz



Electrical Characteristics

Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	@ +25°C	10		100	MHz	(FREQ.)
Frequency Stability	-20°C to +70°C		± 3.0		ppm	N36
	-40°C to +85°C		± 5.0		ppm	T56
Aging	1 st year			± 1.0	ppm	
Acceleration Sensitivity	Worst axis tested @ 90 Hz, 10 g	0.5	0.8	ppb/g	SG	
		0.1	0.3	ppb/g	LG	
		0.07	0.09	ppb/g	ULG	
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		-80		dBc/Hz	
	100		-110		dBc/Hz	
	1 k		-135		dBc/Hz	
	10 k		-150		dBc/Hz	
	100 k		-160		dBc/Hz	

DC Supply

Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage		3.0	3.3	3.6	Vdc	B
		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	%	
Rise / Fall Time				10	nSec	



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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	K	30 g peak, sawtooth, 11 ms

Recommendations and General Information

Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +105°C
Terminal Finish	ENIG (RoHS) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	3 grams
Soldering Instruction	Reflow
Shipping	Tray Pack, Tape & Reel
Marking	GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available

Ordering Example

T1241 - N 56 - B - SG - 10.0 MHz						
Model	Temp. Range	Stability	Supply Voltage	G-Sensitivity	Freq. (MHz)	
	N: -20 to +70°C T: -40 to +85°C	36: ±3ppm 56: ±5ppm	B: 3.3V E: 5V	SG: ≤ 0.8 ppb/g LG: ≤ 0.3 ppb/g ULG: ≤ 0.09 ppb/g HG: Customer-specific	10 to 100	

The Order ID (T1241-N56-B-SG-10.0MHz) is only used to issue the preliminary quote. The Part Number (T1241-1) 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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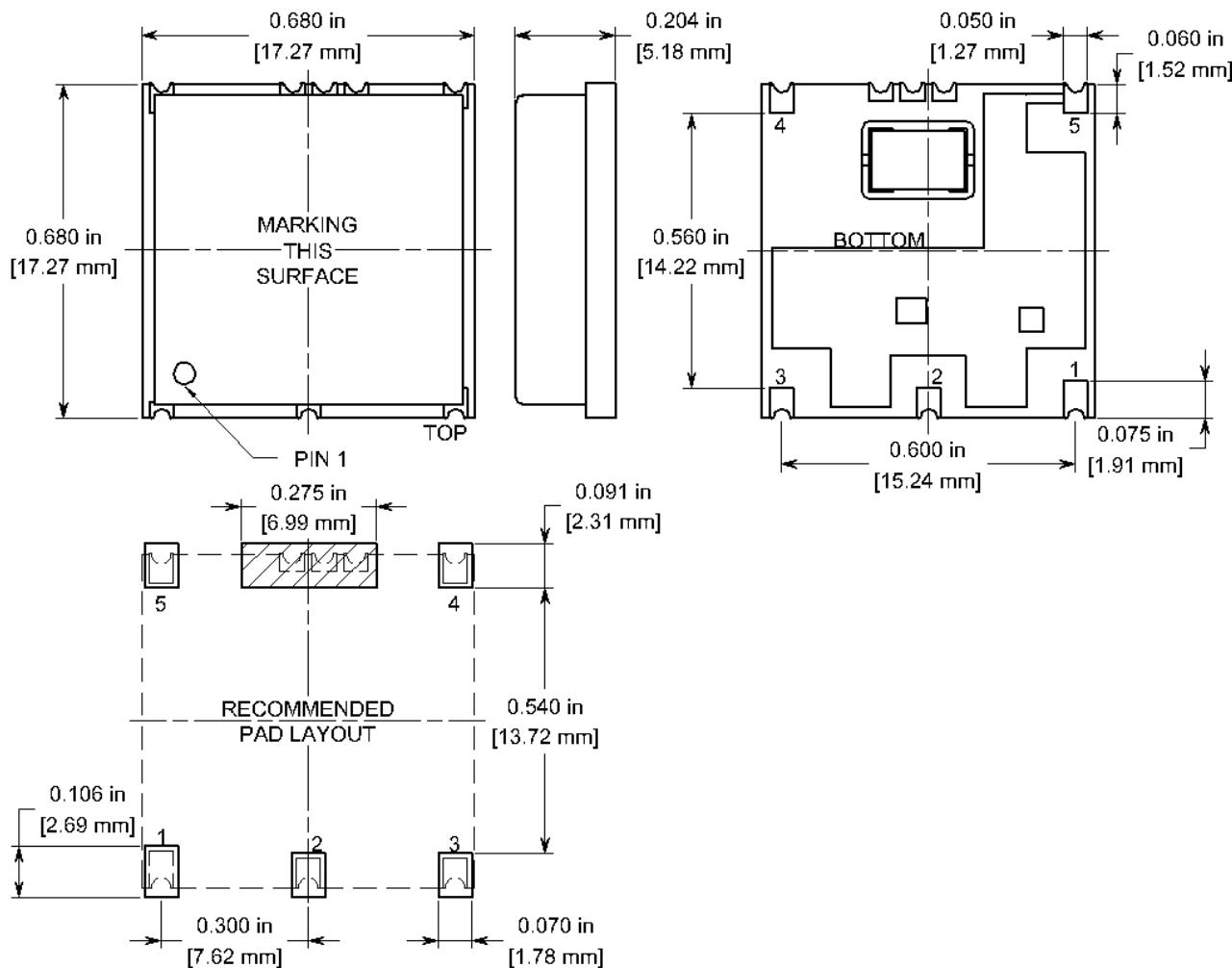


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Package Information



PAD/PIN CONNECTIONS

1	OUTPUT
2	NO CONNECT (NC)
3	SUPPLY VOLTAGE (Vdd)
4	CONTROL VOLTAGE (EFC)
5	GND

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



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