



frequency control solutions

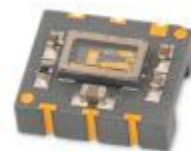
T1307

ULTRA-LOW ACCELERATION SENSITIVITY
MINIATURE SMT PACKAGE

texo

Product Description

Greenray Industries' T1307 TCXO offers ultra-low acceleration sensitivity for vibration and shock sensitive applications. When operating under random vibration, the T1307 can offer phase noise improvements of more than -40dBc/Hz compared to conventional TCXOs and better performance than most OCXOs.



Features

- Proprietary crystal & oscillator design for optimal performance
- Frequency: 10 – 50 MHz
- Voltage Control for precise tuning or phase locking apps
- 9.1 x 7.5 mm, ruggedized package
- +3.3 or +5 VDC Supply
- CMOS or Clipped Sine output
- g-Sensitivity of <0.07 ppb/g
- Relatively impervious to effects of shock and vibration
- 100% screened for g-Sensitivity performance

Applications

- Telecommunications
- High-shock electronics
- Mobile radio
- Mobile instrumentation
- Airborne communications
- Wireless communications
- Microwave receivers

REV: E



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T1307 SERIES

10 MHz to 50 MHz



Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	@ +25°C	10		50	MHz	(FREQ.)
Frequency Stability	-20°C to +70°C		± 0.5		ppm	N57
	-40°C to +85°C		± 1.0		ppm	T16
Aging	1 st year			± 0.5	ppm	
Acceleration Sensitivity	Worst axis tested @ 90 Hz, 10 g			0.7	ppb/g	SG
				0.1	ppb/g	LG
				0.07	ppb/g	ULG
Frequency vs Voltage	For a 5% change			± 0.1	ppm	
Frequency vs Load	For a 10% change			± 0.1	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 7.0		ppm	
Warm-up Time	Within ± 1 ppm			10	mSec	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 10 MHz Nom. Freq.	10		-95		dBc/Hz	
	100		-123		dBc/Hz	
	1 k		-145		dBc/Hz	
	10 k		-155		dBc/Hz	
	100 k		-157		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				6	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	%	
Clipped Sine & Sinewave						CS
Load			10 pF // 10 kΩ			
Output Power		+ 0.8			V p-p	



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Environmental and Mechanical Specifications

Test	Standard	Method	Condition	Description
Vibration	MIL-STD-883	2007	A	50 g, 20 to 2,000 Hz, swept sine
Shock	MIL-STD-883	2002	B	1,500 g, 0.5 ms half-sine

Recommendations and General Information

Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-45°C to +90°C
Terminal Finish	Au (RoHS), SnAg 96.5/3.5(Lead-free) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	3 grams
Soldering Instruction	Hand Solder, Reflow
Shipping	Tray Pack, Tape & Reel

Ordering Example

T1307	-	N	-	57	-	C	-	B	-	SG	-	10.0 MHz	-	E
Model		Temp. Range		Stability		Output		Supply Voltage		G-Sensitivity		Freq. (MHz)		Term. Finish
		N: -20 to +70°C T: -40 to +85°C		57: ±0.5ppm 16: ±1ppm		C: CMOS CS: Clipped Sine		B: 3.3V E: 5V		SG: < 0.7 ppb/g LG: < 0.1 ppb/g ULG: < 0.07 ppb/g HG: Customer-specific		10 to 50		E: Au (RoHS) LF: SnAg 96.5/3.5(Lead-free)

The Order ID (T1307-N57-C-B-SG-10.0MHz-E) is only used to issue the preliminary quote. The Part Number (T1307-1) 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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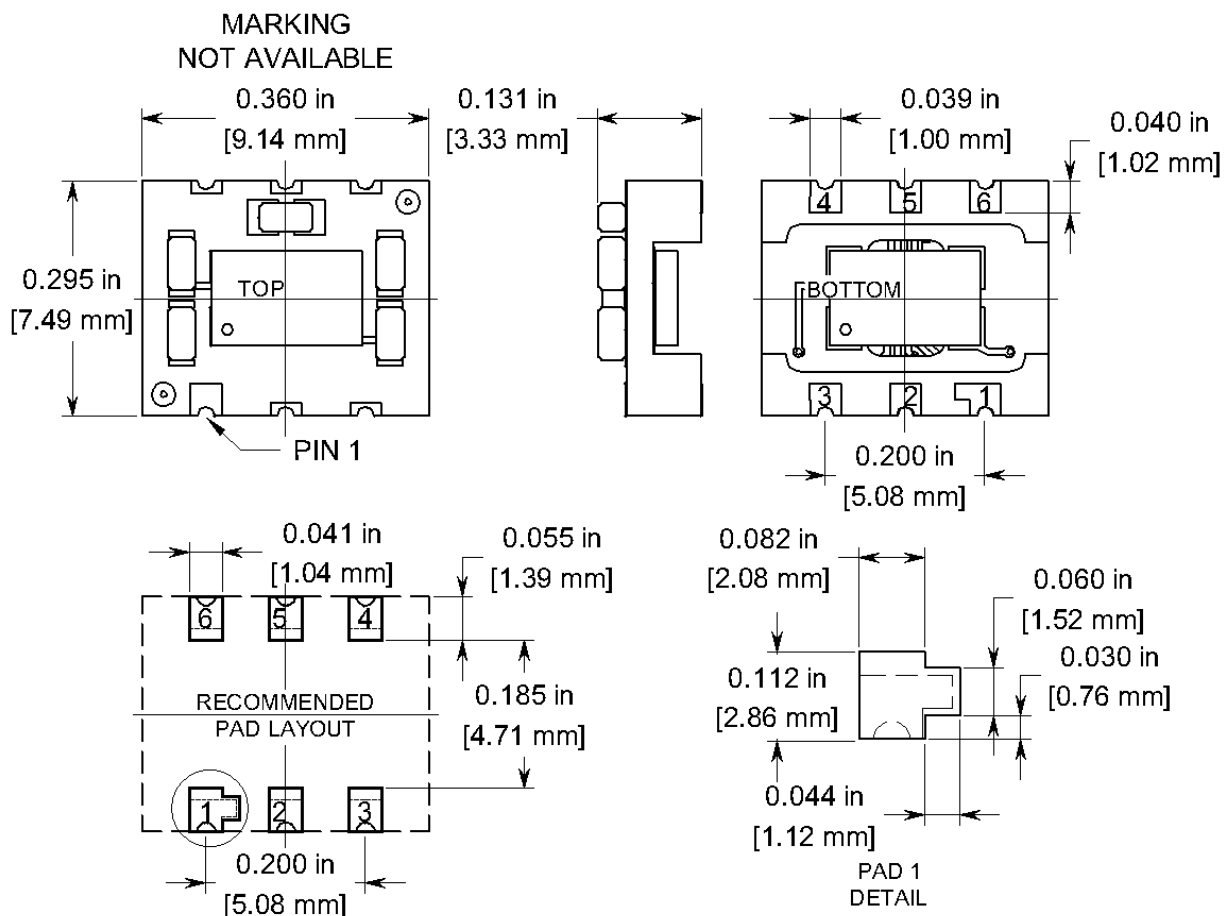
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tcxo

Package Information



PAD CONNECTIONS

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

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



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