



frequency control solutions

## T1244

LOW PHASE NOISE

# tcxo

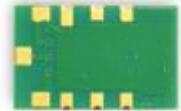
### Product Description

Greenray Industries' T1244 TCXO offers excellent phase noise performance.



### Features

- 14.2 x 9.1 mm SMT compact package
- Low Phase Noise: -154 dBc/Hz @ 10 kHz offset
- Robust package withstanding shocks and vibrations
- 3.3VDC supply
- LVPECL output



### Applications

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

Rev. H



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**T1244 SERIES**  
50 MHz to 150 MHz



## Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	+25°C	50		150	MHz	
Frequency Stability (other stability available)	-40°C to +85°C		± 1		ppm	T16
	-40°C to +85°C		± 2		ppm	T26
	-55°C to +85°C		± 2		ppm	U26
	-55°C to +95°C		± 3		ppm	V36
Aging	1 <sup>st</sup> year			± 1	ppm	
Acceleration Sensitivity	Standard			2.5	ppb/g	
Frequency vs Voltage	For a 5% change			± 0.3	ppm	
Frequency vs Load	For a 10% change			± 0.1	ppm	
Electronic Frequency Control	EFC = 0 to +3.0 V, positive slope	± 5			ppm	
Reflow Shift	After 24 hours settling time			± 1	ppm	
Rise and Fall Time	20% to 80%			1	ns	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 100 MHz nominal Frequency	10		-75		dBc/Hz	
	100		-112		dBc/Hz	
	1k		-140		dBc/Hz	
	10 k		-154		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	
Supply Current				65	mA	
RF Output						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
LVPECL						
Symmetry		40	50	60	%	
Load			50		Ω	
Level		+2.8 "1" level		+0.2 "0" level	V	



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## Environmental and Mechanical Specifications

Screenings			
Screening	Standard	Method, Condition	Description
Vibration	MIL-STD-202	201 and 204, Cond C	10 g, 20 to 2,000 Hz, swept sine
Shock	MIL-STD-202	213, Cond C	100 g, 6 ms, half-sine

## Recommendation and General Information

Conditions	
Parameter	Notes
Operating Temperature	-55°C to +95°C
Storage Temperature	-55°C to +105°C
Terminal Finish	ENIG
Package Weight	3 grams
Soldering Instruction	Reflow
Shipping	Tray pack and Tape & Reel
Marking	Line 1: Greenray logo Line 2: Model Line 3: Frequency Line 4: Serial Number + Data Code (YYWW)

## Ordering Example

<b>T1244</b>	-	<b>T16</b>	-	<b>100.0 MHz</b>	-	<b>E</b>
Model		Stability		Frequency in MHz		Termination finish
		<u>Refer to Electrical Specs Table*</u> T16 (-40 to +85°C) T26 (-40 to +85°C) U26 (-55 to +85°C) V36 (-55 to +95°C)		From 50 to 150 MHz		E: ENIG (RoHS), Standard

\*Other frequency stabilities available, please contact factory



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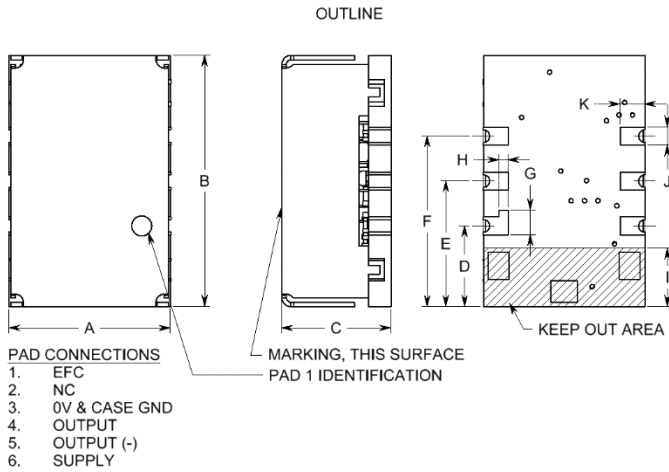


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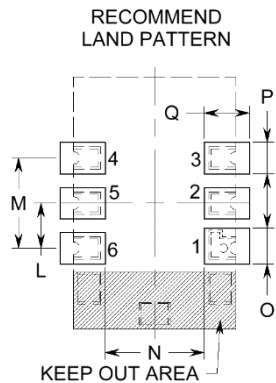
## Package dimensions and Pad Connections



**PART DIMENSIONS**

DIM	TYP.		MAX.	
	inches	mm	inches	mm
A	0.360	9.14	0.375	9.53
B	0.560	14.22	0.575	14.61
C	0.255	6.48	0.270	6.86
D	0.180	4.57	0.195	4.95
E	0.280	7.11	0.295	7.49
F	0.380	9.65	0.395	10.03
G	0.055	1.40	NA	NA
H	0.020	0.508	NA	NA
I	0.130	3.30	0.145	3.68
J	0.040	1.02	NA	NA
K	0.055	1.40	NA	NA

## Recommended Land Pattern



**LAND PATTERN DIMENSIONS**

DIM	TYP.		MAX.	
	inches	mm	inches	mm
L	0.200	5.08	0.215	5.46
M	0.100	2.54	0.115	2.92
N	0.220	5.59	0.235	5.97
O	0.080	2.03	NA	NA
P	0.070	1.78	NA	NA
Q	0.100	2.54	NA	NA



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