



frequency control solutions

## T1244

LOW PHASE NOISE

# tcxo

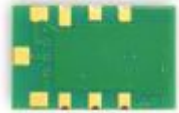
### Product Description

Greenray Industries' T1244 TCXO offers excellent phase noise performance.



### Features

- 14.2 x 9.1mm SMT compact package
- Low Phase Noise: -154 dBc/Hz @ 10kHz 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. G



ISO 9001  
Quality

**Greenray Industries, Inc., 840 West Church Road, Mechanicsburg, PA 17055**  
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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	
Phase Noise (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	
Supply Voltage (V <sub>DD</sub> )		3.0	3.3	3.6	VDC	
Supply Current				65	mA	
RF Output: LVPECL						
Parameter	Conditions	Min	Typical	Max	Units	
Symmetry	LVPECL	40	50	60	%	
Load	LVPECL		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>100.0MHz</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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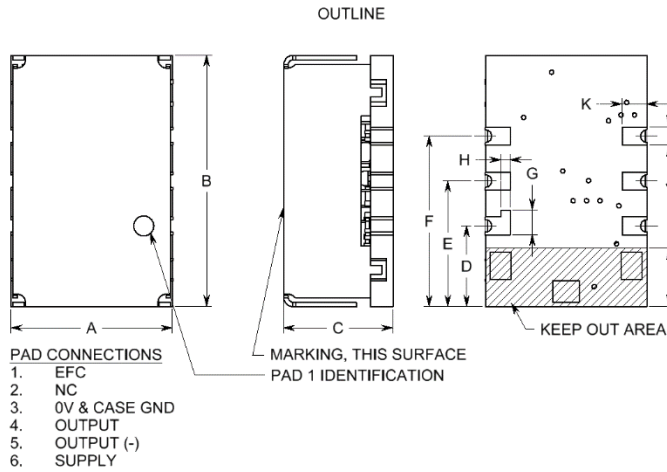


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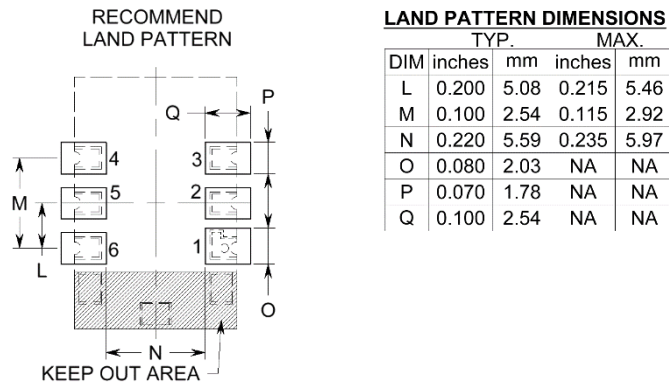
## Package dimensions and Pad Connections



### 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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