GREENRAY
frequency control solutions

T124

tcxo

LOW FREQUENCY TCXO
TIGHT TEMPERATURE STABILITY

Product Description

Greenray Industries' T124 TCXO features Ultra-low frequency & rugged SMT package.

Features

- Available from 650 Hz to 5 MHz
- 17.3 mm sq. package
- +3.3 or +5 VDC Supply
- CMOS output
- Temperature Stability to ±0.5 ppm over -40 to +85°C
- Low Power consumption
- Extended, long-term stability performance
- Ideal for mobile, RF applications

Applications

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

REV: G

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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T124 SERIES
650 Hz to 5.0 MHz

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Electrical Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	@ +25°C	650		5.0 M	Hz	(FREQ.)
Frequency Stability	-20°C to +70°C		± 0.3		ppm	N37
	-40°C to +85°C		± 0.5		ppm	T57
	-40°C to +85°C		± 1.0		ppm	T16
Absolute Pull Range	All conditions 10 years			± 5.0	ppm	
Aging	1st year			± 1.0	ppm	
Acceleration Sensitivity	Worst axis tested @ 90 Hz, 10 g			3.5	ppb/g	SG
				3.0	ppb/g	LG
				2.5	ppb/g	ULG
Frequency vs Voltage	For a 5% change			± 0.3	ppm	
Frequency vs Load	For a 5% change			± 0.3	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 7.0		ppm	

Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical	Max	Units	Ordering Code
Static @ 1 MHz Nom. Freq.	10		-75		dBc/Hz	
	100		-102		dBc/Hz	
	1 k		-125		dBc/Hz	
	10 k		-140		dBc/Hz	
	100 k		-145		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				20	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		45	50	55	%	

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Environmental and Mechanical Specifications				
Test	Standard	Method	Condition	Description
Vibration	MIL-STD-202G	214	II. F	0.3 PSD, 24.06 g RMS, 3min/axis
Shock	MIL-STD-202G	213		90 g peak, half sine, 5 ms

Recommendations and General Information	
Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-54°C to +105°C
Terminal Finish	ENIG (RoHS) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	3 grams
Soldering Instruction	Hand Solder, Reflow
Shipping	Tray Pack
Marking	GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available

Ordering Example

T124 - T 57 - B - SG - 1.0 MHz

Model	Temp. Range	Stability	Supply Voltage	G-Sensitivity	Freq.
	N: -20 to +70°C T: -40 to +85°C	37: ±0.3ppm 47: ±0.4ppm 57: ±0.5ppm 16: ±1ppm	B: 3.3V E: 5V	SG: < 3.5 ppb/g LG: < 3.0 ppb/g ULG: < 2.5 ppb/g HG: Customer-specific	650 Hz – 5 MHz

The Order ID (T124-T57-B-SG-1.0 MHz) is only used to issue the preliminary quote. The Part Number (T124-1) 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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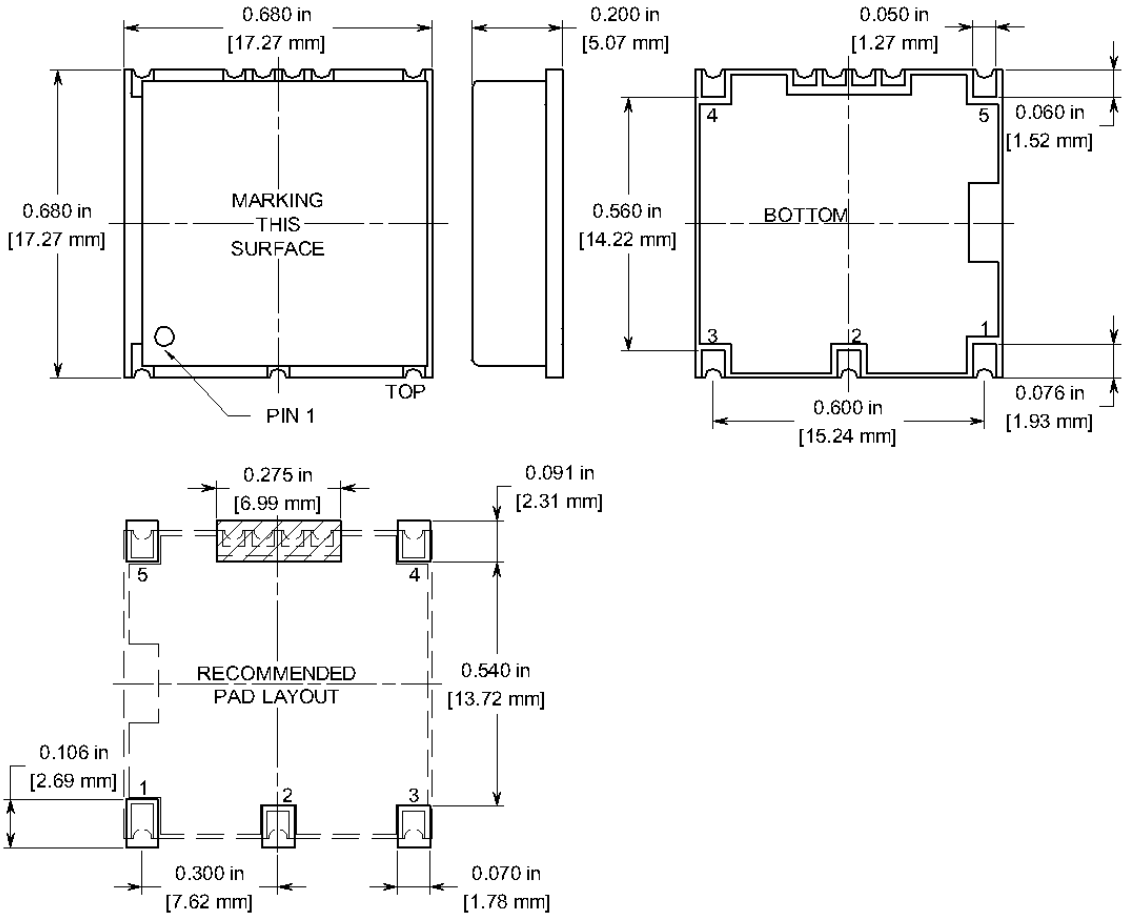
intertek

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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