



frequency control solutions

texo

T120

TIGHT STABILITY
LOW NOISE TCXO

Product Description

Greenray Industries' T120 TCXO offers low noise and tight stability in a rugged package

Features

- 22.9 x 17.8 mm, ruggedized package
- +3.3 or +5 VDC Supply
- CMOS output
- Temperature Stability to ± 0.5 ppm (-40 to +85°C)
- -160 dBc/Hz Noise Floor
- Extended, long-term stability performance



Applications

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

REV: G



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frequency control solutions

T120 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	-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	1 st 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			± 1.0	ppm	
Frequency vs Load	For a 5% change			± 0.1	ppm	
Voltage Control (EFC)	0 to Supply, Positive Slope		± 6.0		ppm	
Phase Noise Performance						
Parameter	Frequency Offset (Hz)	Min	Typical 10 MHz	Typical 100 MHz	Units	Ordering Code
Static @ 100 MHz Nom. Freq.	10		-90	-70	dBc/Hz	
	100		-125	-100	dBc/Hz	
	1 k		-145	-125	dBc/Hz	
	10 k		-155	-145	dBc/Hz	
	100 k		-160	-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		13.5	15	16.5	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-202	201A		0.6 PSD, 34.02 g RMS, 3min/axis
Shock	MIL-STD-202	213	K	90 g peak, half-sine, 5 ms

Recommendations and General Information	
Parameter	Notes
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +90°C
Terminal Finish	Au (RoHS) (SnPb 63/37 (non-RoHS) Available upon request)
Package Weight	< 3 gram
Soldering Instruction	Hand Solder, Reflow
Shipping	Tape & Reel
Marking	GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available

Ordering Example										
T120	-	T	-	16	-	B	-	SG	-	10.0 MHz
Model	Temp. Range	Stability	Supply Voltage	G-Sensitivity	Freq. (MHz)					
	T: -40 to +85°C	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	10 to 100					

The Order ID (T120-T16-B-SG-10.0MHz) is only used to issue the preliminary quote. The Part Number (T120-1) 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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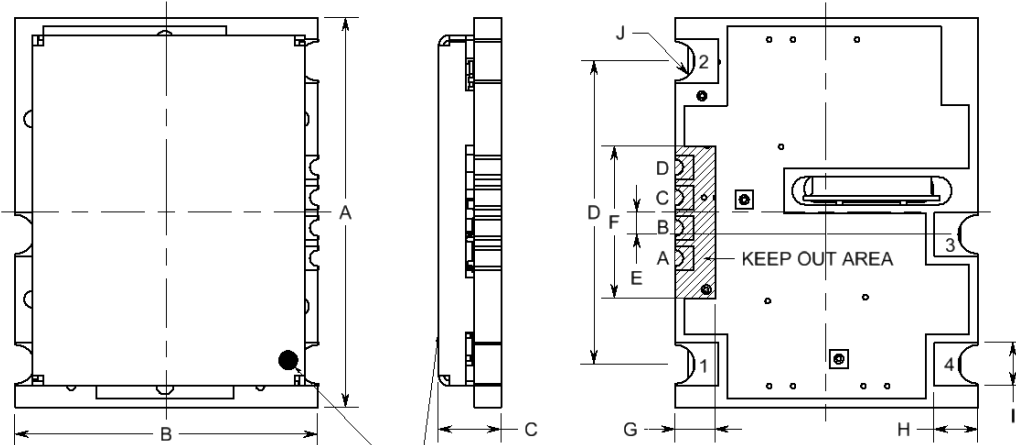
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Package Information

OUTLINE



PART DIMENSIONS

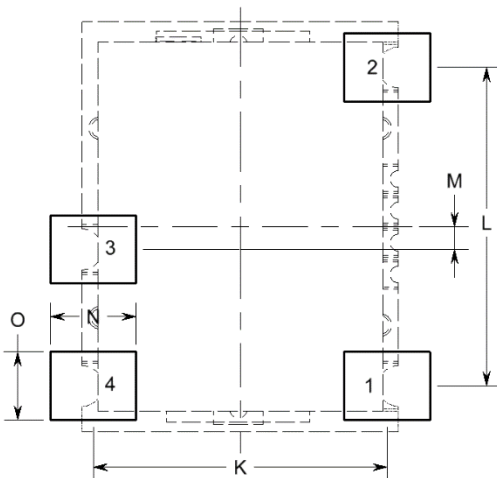
DIM	TYP.		MAX.	
	inches	mm	inches	mm
A	0.900	22.86	0.910	23.11
B	0.700	17.78	0.710	18.03
C	NA	NA	0.155	3.94
D	0.700	17.78	0.710	18.03
E	0.050	1.27	0.060	1.52
F	0.350	8.89	0.360	9.14
G	0.093	2.36	0.103	2.62
H	0.100	2.54	0.110	2.79
I	0.100	2.54	0.110	2.79
J	R0.045	R1.14	NA	NA

PAD CONNECTIONS

- 1. OUTPUT
- 2. EFC
- 3. 0V & CASE GND
- 4. SUPPLY
- A. NC (INTERNAL USE ONLY)
- B. CS (INTERNAL USE ONLY)
- C. DIO (INTERNAL USE ONLY)
- D. SCLK (INTERNAL USE ONLY)

MARKING, THIS SURFACE
PAD 1 INDENIFICATION

**RECOMMENDED
LAND PATTERN**



LAND PATTERN DIMENSIONS

DIM	TYP.		MAX.	
	inches	mm	inches	mm
K	0.150	3.81	NA	NA
L	0.700	17.78	NA	NA
M	0.050	1.27	NA	NA
N	0.190	4.83	NA	NA
O	0.150	3.81	NA	NA



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