



frequency control solutions

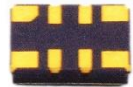
texo

T58

TIGHT STABILITY

Product Description

Greenray Industries' T58 Series TCXO has been developed as a reference oscillator for timing applications requiring very low g-Sensitivity performance and tight temperature stability.



Features

- Frequency Range: 10 to 52MHz
- g-Sensitivity to $<3 \times 10^{-10}/g$
- Shock to 30,000g
- Temperature Stability of $\pm 0.2\text{ppm}$ over -40 to $+85^\circ\text{C}$
- Rugged 5.0 x 3.2mm package
- Low g-Sensitivity and Tight Stability in a compact, SMT package

Applications

- Telecommunications
- High-shock electronics
- Mobile radio
- Mobile instrumentation
- Airborne communications
- Wireless communications
- Microwave receivers
- Telecom Stratum 3
- Smart munitions

Rev. -



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T58 SERIES
10 MHz to 52 MHz



Electrical Characteristics

Frequency Characteristics						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Nominal Frequency	+25°C	10		52	MHz	Frequency
Frequency Stability	-20°C to +70°C		± 0.1		ppm	T17
	-40°C to +85°C		± 0.2		ppm	T27
Aging	1 st year			± 1	ppm	
Acceleration Sensitivity	(Note 1)			8	x10 ⁻¹⁰ /g	SD
				5	x10 ⁻¹⁰ /g	LG
				3	x10 ⁻¹⁰ /g	ULG
Frequency vs Reflow	After 24hrs recovery			1	ppm	
Electronic Frequency Control	EFC = 0 to Vdd Positive slope		± 8		ppm	
DC Supply						
Parameter	Conditions	Min	Typical	Max	Units	Ordering Code
Supply Voltage (Vdd)		3.0	3.3	3.6	Vdc	3.3
Input Current	CMOS			6	mA	C
	Clipped Sinewave			3	mA	S
RF Outputs available: CMOS and Clipped Sine						
Parameter	Conditions	Min	Typical	Max	Units	Parameter
CMOS Output						C
Load			15		pF	Load
Levels	Vdd=3.3V	+2.8 ("1"Level)		+0.2 ("0"Level)	V	Levels
Symmetry		40	50	60	%	Symmetry
Clipped Sine Output						S
Load			10pF//10kΩ			Load
Level		+0.8			V p-p	Level

(1) Acceleration Sensitivity is worst axis tested at 90 Hz, 10 g



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Environmental Screenings

Environmental				
Screening	Conditions	Method	Notes	Ordering Code
Vibration	MIL-STD-202G	214	Cond I-F	
Shock	MIL-STD-202G	213	Custom requirement	HG

Ordering (Example)

T58 N17 C 3.3 LG 40.0MHz HG - E
 Model - Stability - Output - Supply Voltage - G-Sensitivity – Frequency – Shock Termination Pads Finish

Refer to Electrical Specs Table*
 N17
 T27
 T57

Code : Output Signal
 C : CMOS
 S : Clipped Sinewave

Code: Supply Voltage
 3.3: 3.3V

Code: Pads finish
 E : Gold plated (RoHS) std
 PB : 63/37 SnPb (non-RoHS)
 LF: 96.5/3.5 Sn/Ag

Code : Shock
 Blank : standard
 HG : Custom requirements

*Frequency in MHz
 From 10 to 52 MHz

Code : G-sensitivity
 SD : < 7 x 10⁻¹⁰/g
 LG : < 5 x 10⁻¹⁰/g
 ULG : < 3 x 10⁻¹⁰/g

*other frequency stabilities available, for further information please contact factory



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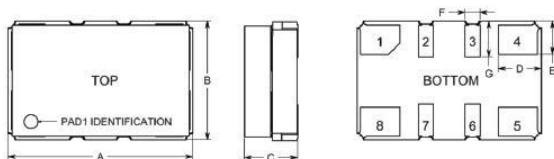


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Package information



PAD CONNECTIONS

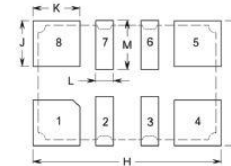
1. EFC
2. CS (INTERNAL USE ONLY)
3. ADIO (INTERNAL USE ONLY)
4. GND
5. OUTPUT
6. TRISTATE OR N/C, SEE TABLE 1
7. VC (INTERNAL USE ONLY)
8. SUPPLY

TABLE 1: TRISTATE FUNCTION

PAD 6	Enable/Disable Function
HIGH (Supply)	Output Enabled
OPEN (N/C)	Output Enabled
LOW (GND)	High Impedance Disabled

DIMENSIONS

DIM	TYP		MAX	
	in.	mm	in.	mm
A	0.197	5.00	0.207	5.25
B	0.126	3.20	0.136	3.45
C	NA	NA	0.079	2.00
D	0.046	1.17	NA	NA
E	0.035	0.89	NA	NA
F	0.016	0.41	NA	NA
G	0.038	0.97	NA	NA



RECOMMENDED LAND PATTERN

LAND PATTERN DIMENSIONS

DIM	TYP		MAX	
	in.	mm	in.	mm
H	0.209	5.31	0.219	5.56
I	0.139	3.53	0.149	3.78
J	0.051	1.30	NA	NA
K	0.052	1.32	NA	NA
L	0.020	0.51	NA	NA
M	0.054	1.37	NA	NA



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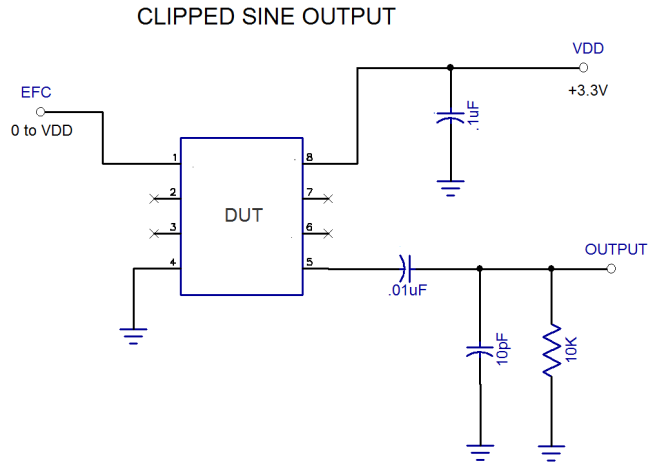
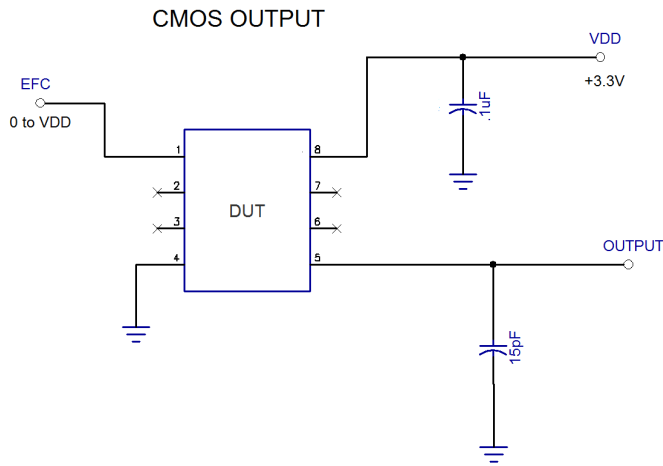


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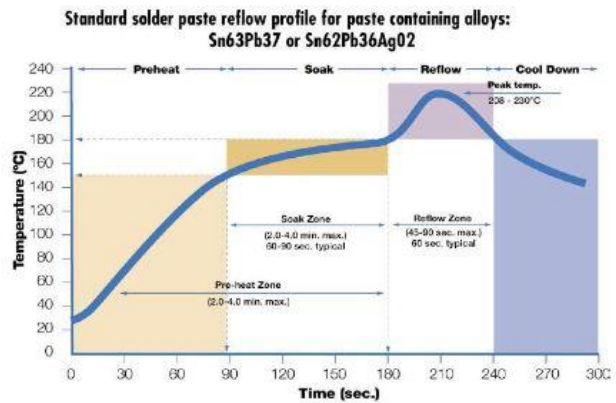
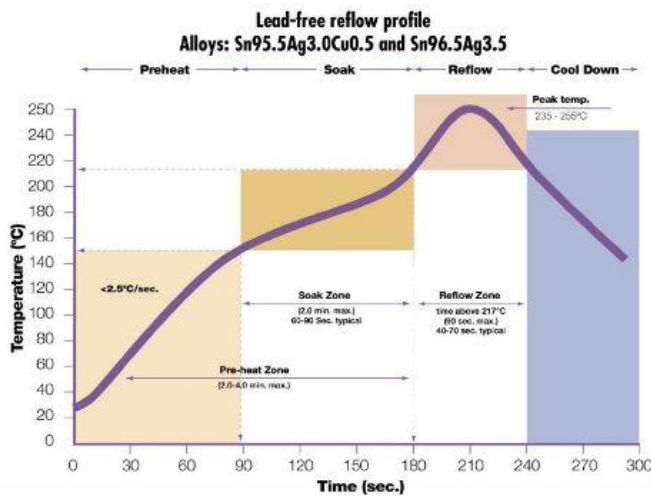
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Recommended Configuration



Recommended Solder Reflow Profiles



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