2.5 mm x 3.2 mm Ceramic Package SMD TCXO

I547/I747 Series

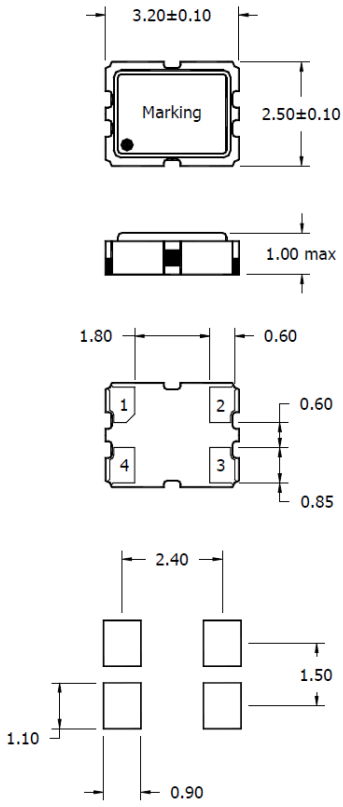
Product Features:

Clipped Sinewave
Analog Compensation
Available ±0.5ppm Stability
RoHS Compliant / Pb-free

Applications:

GPS
Smart Meters
Wireless Base Stations
Sonet / SDH
T1/E1, T3/E3

Frequency	10MHz to 52MHz
Frequency Tolerance @ 25° C	±2.0ppm after second reflow
Frequency Stability Vs Temperature Vs Supply Voltage (± 5%) Vs Load (10%)	 See Part Numbering Guide ±0.2ppm Maximum ±0.2ppm Maximum
Output Level Clipped Sinewave	 0.8V p-p Minimum
Output Load Clipped Sinewave	 10KOhms / 10 pF
Start Time (90% of Vp-p)	3.0mSec Maximum
Aging	±1ppm / Year Maximum
Supply Voltage	See Part Numbering Guide, tolerance ± 5%
Current ≤32MHz >32mHz	 1.5mA Maximum 2.0mA Maximum
Voltage Control	1.5Vdc ±1.0Vdc, ± 5.0ppm Minimum (Only for I747)
Operating Temperature Range	See Part Numbering Guide
Storage Temperature Range	-40°C to +85°C
Phase Noise (typical)	-87 dBc/Hz at 10Hz -112 dBc/Hz at 100Hz -135 dBc/Hz at 1KHz -145 dBc/Hz at 10KHz
Compensation	Analog



Suggested Land Pattern

PIN CONNECTIONS		
PIN 1	I547	Ground or No Connect
	I747	Control Voltage
PIN 2		Ground
PIN 3		Output
PIN 4		Supply Voltage

Dimensions in mm

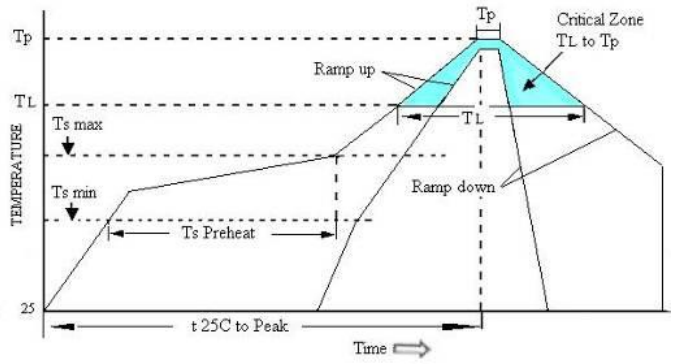
Part Numbering Guide

Sample Part Number: I547-1Q3-20.000 MHz				
Package	**Operating Temperature**	**FrequencyStability vs Temperature**	**Supply Voltage**	**Frequency**
I547 (Clipped Sinewave TCXO) I747 (Clipped Sinewave TCVCXO)	7 = 0°C to +50°C	*, ** Y = ±0.5ppm	3 = 3.3V	- 20.000 MHz
	1 = 0°C to +70°C	*N = ±1.0ppm	7 = 3.0V	
	3 = -20°C to +70°C	*O = ±1.5ppm	8 = 2.8V	
	5 = -30°C to +85°C	*P = ±2.0ppm	2 = 2.7V	
	2 = -40°C to +85°C	Q = ±2.5ppm	1 = 1.8V	
		R = ±3.0ppm		
		J = ±5.0ppm		

***** Not available for all frequencies or temperature ranges.
****** Referenced to the midpoint between minimum and maximum frequency value over Operating Temperature Range.

NOTE: It is recommended that a 0.01µF bypass capacitor be connected between Vdd (Pin 4) and Ground (Pin 2) to minimize power supply noise.
It is recommended that an external 0.01µF AC-coupling capacitor be connected to output (Pin 3) of the device.
For the TXCO (I547), it is recommended that Pin 1 should not be left floating but be connected to Ground.

Pb Free Solder Reflow Profile:



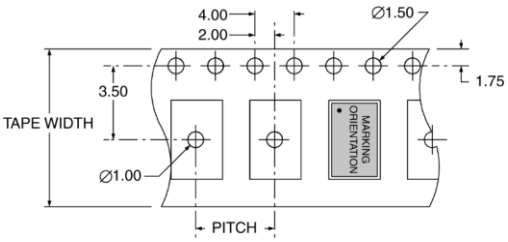
Units are backward compatible with +240˚C reflow processes

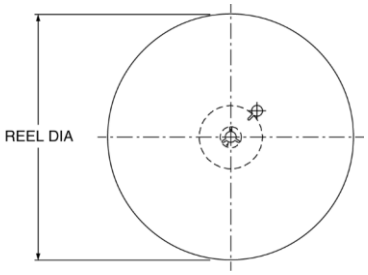
Ts max to T_L (Ramp-up Rate)	3°C / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150°C 175°C 200°C 60 to180 seconds
Ramp-up Tate (T_L to Tp	3°C / second max
Time Maintained Above Temperature (T_L) Time (T_L)	 217°C 60 to 150 seconds
Peak Temperature (Tp)	260°C max for 10 seconds
Time within 5°C to Peak Temperature (Tp)	20 to 40 seconds
Ramp-down Rate	6°C / second max
Tune 25°C to Peak Temperature	8 minutes max

Package Information:

MSL = 1 (package does not contain plastic, storage life is unlimited under normal room conditions)
Termination = e4 (Au over Ni over W base metallization)

Tape and Reel Information:





PITCH	4.00
TAPE WIDTH	8.00
REEL DIA	180
QTY PER REEL	3,000

Tape and Reel Information:

Thermal Shock	MIL-STD-883, Method 1011, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Mechanical Vibration	MIL-STD-883, Method 2007, Condition A
Resistance to Soldering Heat	J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max)
Hazardous Substance	Pb-Free / RoHS Compliant
Solderability	JESD22-B102 Method 2 (Preconditioning E)
Terminal Strength	MIL-STD-883, Method 2004, Test Condition D
Gross Leak	MIL-STD-883, Method 1014, Condition C
Fine Leak	MIL-STD-883, Method 1014, Condition A2, R1=2x10-8 atm cc/s
Solvent Resistance	MIL-STD-202, Method 215

Marking:

Line 1: I-Date Code (YWW)
Line 2: Frequency