2.5 mm x 3.2 mm Ceramic Package SMD TCXO

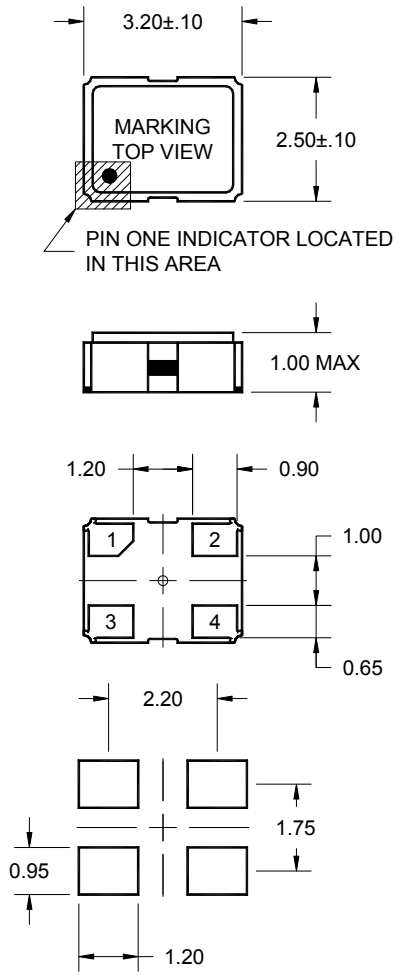
I543 / I743 Series

Product Features:
- Low Current Consumption
- Ultra-Miniature Package
- RoHS Compliant
- Analog Temperature Compensation

Applications:
- GPS, GPS Module
- CDMA / WCDMA
- 802.11 / Wifi
- T1/E1, T3/E3

Output Specifications	
Frequency	13.000MHz to 52.000MHz (Contact Sales Channel for Available Frequencies
Frequency Tolerance	±2.0 ppm (at +25°C±3°C, referenced to nominal freq., 60 minutes after 2nd reflow)
Frequency Stability Frequency Stability vs Temperature Frequency Stability Vs. Voltage Frequency Stability Vs. Load	 ±0.5 ppm Maximum (Inclusive of Operating Temperature Range) ±0.2 ppm Maximum (±5%) ±0.2 ppm Maximum (±1kOhm//±1pF)
Aging (at 25°C)	±1.0 ppm Maximum First Year
Supply Voltage (Vcc)	See Part Number Guide; Tolerance ±5%
Input Current (Icc)	1.5mA Maximum (Nominal Frequency less than or equal to 26.000MHz) 2.0mA Maximum (Nominal Frequency less than or equal to 32MHz) 2.5mA Maximum (Nominal Freq. over 32MHz)
Start-up Time	3mSec Maximum
Output Level Clipped Sinewave Harmonics Output Load	 0.8Vp-p Minimum -8dBc Maximum 10kOhms//10pF
SSB Phase Noise (at 25°C, Typ.)	-87dBc/Hz at 10Hz offset -112dBc/Hz at 100Hz offset -135dBc/Hz at 1kHz offset -145dBc/Hz at 10kHz offset
Operating Temperature Range	See Part Number Guide
Absolute Maximum Rating	
Storage Temperature	-40°C to +85ºC
Supply Voltage (Vcc)	-0.6 VDC to +4.6 VDC
Control Voltage (Vc)	-0.6 VDC to Vcc ±0.5 VDC (I743 Only)

Voltage Control Characteristics	
Frequency Deviation	±5ppm Minimum
Control Voltage Center and Range	1.5Vdc ±1.0Vdc
Slope	Positive
Linearity	±10%
Input Impedance	500kOhms Minimum



Recommended Pad Layout

Pin Connections		
Pin 1	I543	Ground
	I743	Control Voltage
Pin 2	Ground	
Pin 3	Output	
Pin 4	Supply Voltage (Vcc)	

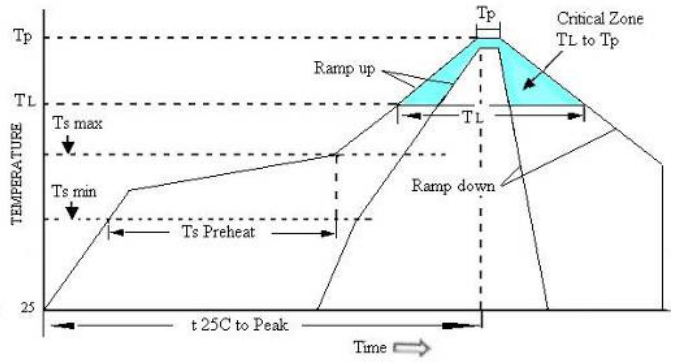
Dimension Units: mm

Part Number Guide

Sample Part Number: I587-5Y3-26.000 MHz

Package	Operating Temperature Range	Frequency Stability vs. Temperature	Supply Voltage	Frequency	Suffix
I543 (Clipped Sinewave TCXO)	5 = -30°C to +85ºC	Y = ±0.5 ppm Max	3 = +3.3 VDC	XX.XXX or XX.XXXX = Nominal Frequency (5 or 6 Digits + Decimal)	MHz = Megahertz
I743 (Clipped Sinewave VCTCXO)			7 = +3.0 VDC		
			8 = +2.8 VDC		

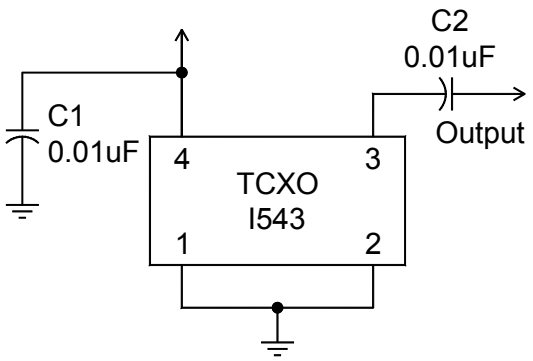
Pb Free Solder Reflow Profile:

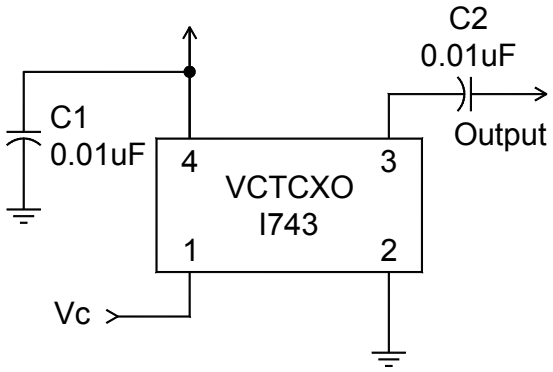


Ts max to T_L (Ramp-up Rate)	3ºC / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150ºC 175ºC 200ºC 60 to180 seconds
Ramp-up Tate (T_L to Tp	3ºC / second max
Time Maintained Above Temperature (T_L) Time (T_L)	 217ºC 60 to 150 seconds
Peak Temperature (Tp)	260ºC max for seconds
Time within 5ºC to Peak Temperature (Tp)	20 to 40 seconds
Ramp-down Rate	6ºC / second max
Tune 25ºC to Peak Temperature	8-minute max
Moisture Sensitivity Level (MSL)	Level 1

Units are backward compatible with +240ºC reflow processes

Circuit Configuration:





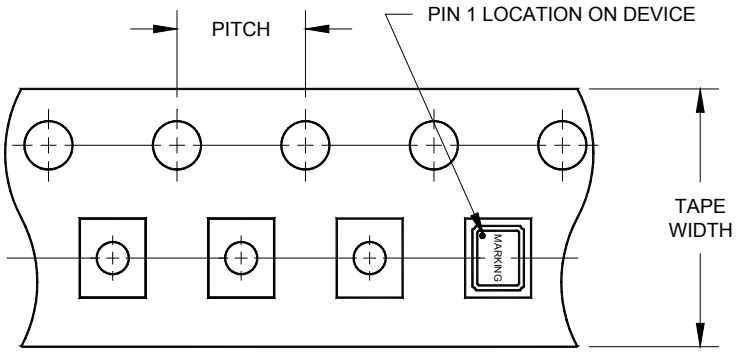
Notes:

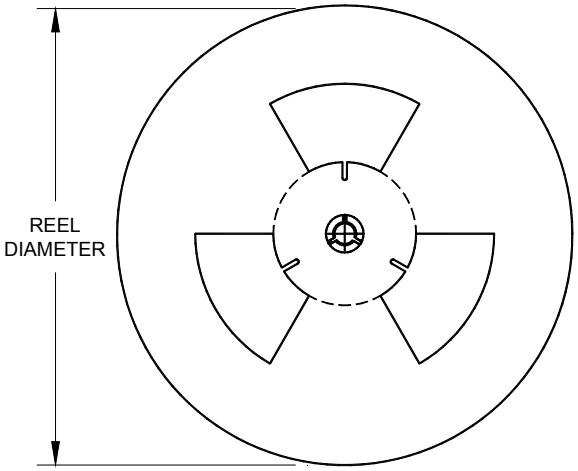
- It is recommended that a 0.01 µF bypass capacitor be connected between Vcc (Pin 4) and Ground (Pin 2) to minimize power supply noise.
- It is recommended that an external 0.01 µF AC-coupling capacitor be connected to output (Pin 3) of the device.
- For the TCXO (I543) Pin 1 should not be left floating but must be connected to ground.

Environmental Specifications:

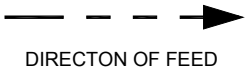
Thermal Shock	MIL-STD-883, Method 1011, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Mechanical Vibration	MIL-STD-883, Method 2007, Condition A
Resistance to Soldering Heat	J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max)
Hazardous Substance	Pb-Free / RoHS / Green Compliant
Solderability	JESD22-B102-D 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

Tape and Reel Information:





PITCH:	4.00
TAPE WIDTH:	8.00
REEL DIAMETER:	180
QTY PER REEL MAX:	3000
Compliant to EIA-481	
All Dimensions in Millimeters	



DIRECTON OF FEED

Package Information:

MSL = 1
Termination = e4 (Au over Ni over W base metallization)

Marking:

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