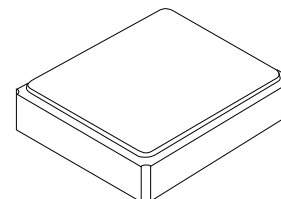


# Preliminary



**XTC7005-1**

**16.36900 MHz  
TCXO**



**4-Terminal SMD Case**

- **Temperature Compensated Crystal Oscillator**
- **Miniature 3.2 x 2.5 mm SMD Package**
- **Excellent Frequency Stability**
- **Low Phase Noise**
- **Complies with Directive 2002/95/EC (RoHS)**



## Electrical Characteristics

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Nominal Frequency	F <sub>O</sub>			16.36900		MHz
Frequency Tolerance after Reflow			±2 ppm maximum @ 25 ±3 °C			
Storage Temperature Range			-40		+85	°C
Operating Temperature Range			-40		+85	°C
Power Supply Voltage	V <sub>DD</sub>		2.70	2.85	3.00	V
Output Voltage with 10 pF    10 KΩ Load			0.8			V <sub>P-P</sub>
Output Waveform			Clipped Sinewave			
Power Supply Current	I <sub>DD</sub>				2.0	mA
Frequency Stability versus:						
Temperature, -40 to 85 °C					±0.5	ppm
Load Variation, 10 pF    10 KΩ ±10%					±0.2	ppm
Supply Voltage, 2.85 V ±5%					±0.2	ppm
Short-term Stability (Root Allen Variance), Tau = 1 second					1	ppb
Frequency Slope, one measurement every 2 °C					±0.05	ppm
Static Temperature Hysteresis					±0.6	ppm
Start Up Time, 90% of Final RF level in V <sub>P-P</sub>					2.0	ms
Harmonics					-7.0	dBc
SSB Phase Noise @ 1 kHz Carrier Offset					-130	dBc/Hz
Aging @ 25 °C					±1.0	ppm
Standard Shipping Quantity on 180 mm (7") Reel				1000		units
Lid Symbolization (in addition to Lot and/or Date Codes)			Line 1: 7005-1 Line 2: YWWS			

## Pin Connections

Connection	Terminals
Ground	1
Ground	2
TCXO Output	3
V <sub>DD</sub>	4



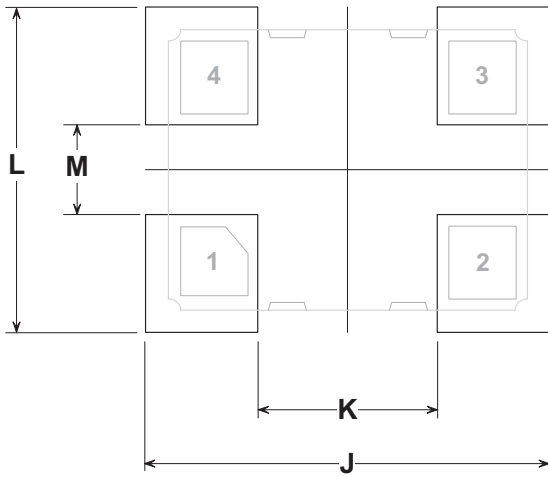
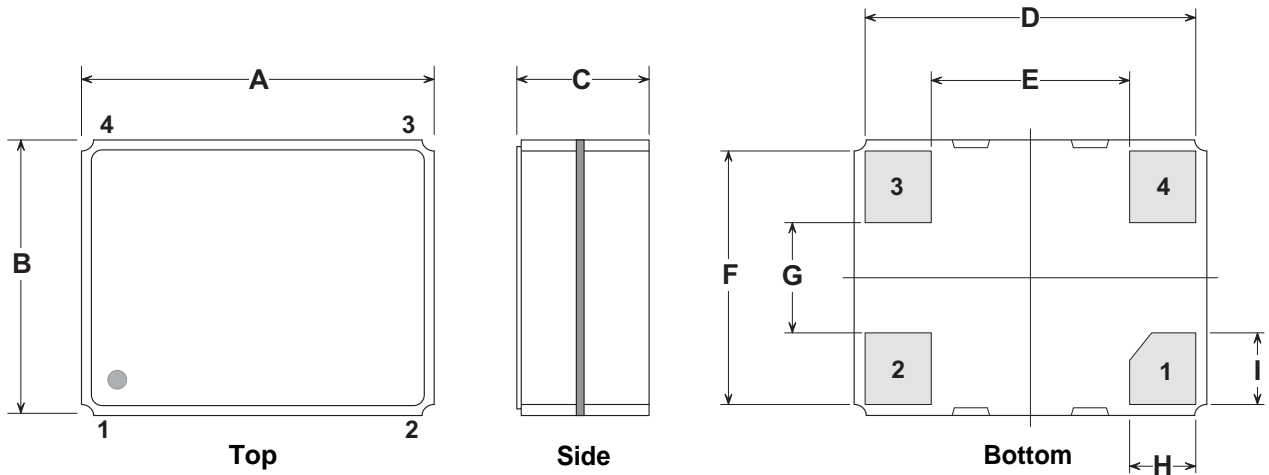
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

### Notes:

1. The design, manufacturing process, and specifications of this device are subject to change without notice.

# 4-Terminal Surface-Mount Seam Weld Case

## 3.2 x 2.5 mm Nominal Footprint



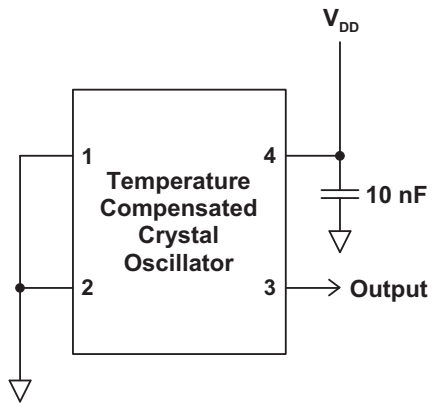
PCB Land Pattern  
(Top View)

### Case and PCB Land Dimensions

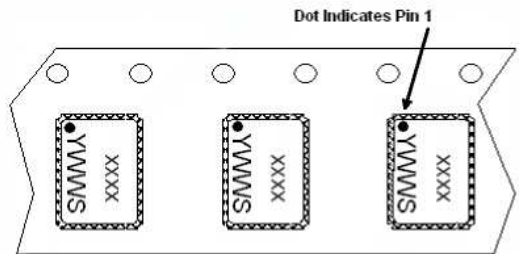
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.00	3.20	3.40	0.118	0.126	0.134
B	2.30	2.50	2.70	0.091	0.098	0.106
C	-	-	1.20	-	-	0.047
D	-	3.08	-	-	0.121	-
E	-	1.80	-	-	0.071	-
F	-	2.38	-	-	0.094	-
G	-	1.00	-	-	0.039	-
H	-	0.60	-	-	0.024	-
I	-	0.65	-	-	0.026	-
J	-	3.60	-	-	0.142	-
K	-	1.60	-	-	0.063	-
L	-	2.90	-	-	0.114	-
M	-	0.80	-	-	0.031	-

### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

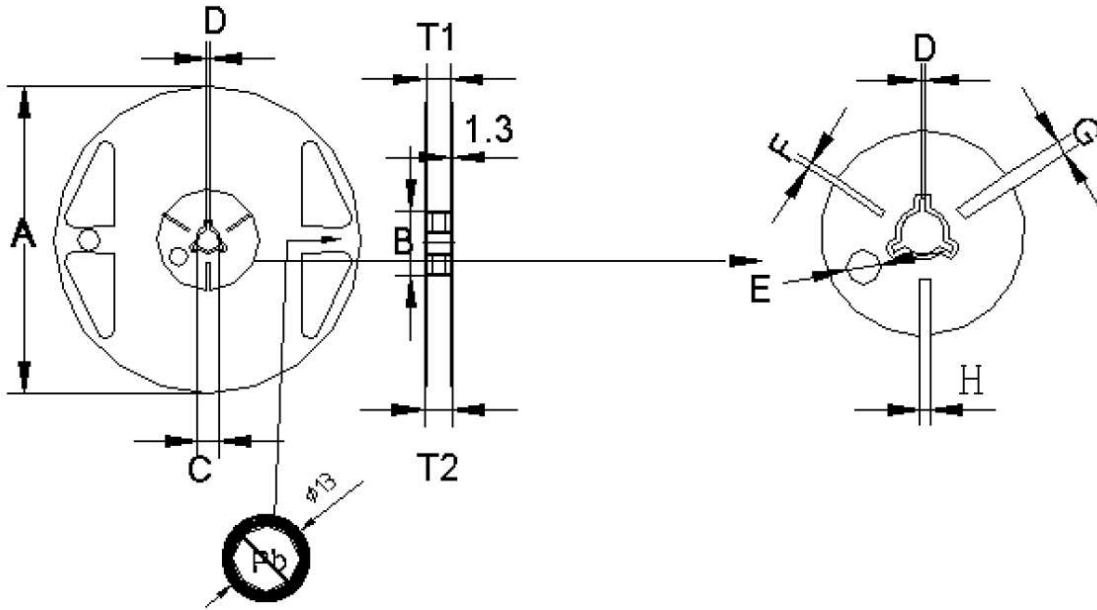


TCXO Application Circuit



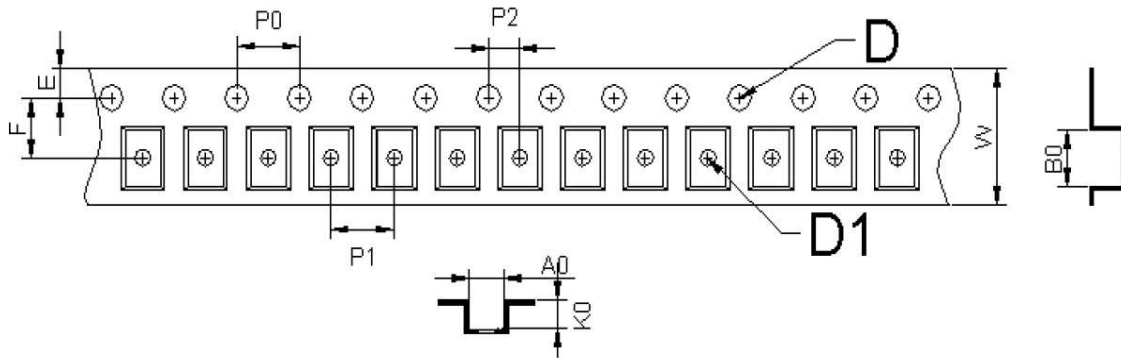
Package Orientation in Carrier Tape

## Reel Dimensions



mm	A	B	C	D	E	F	G	H	T1	T2	T3
Dimension	180	60	13.0	2.0	9.1	2.9	4.9	3.9	9.0	11.4	1.2
Tolerance	$\pm 1.0$	$+1.0/-0.0$	$\pm 0.2$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$\pm 0.3$	$\pm 1.0$	$\pm 0.1$

## Tape Dimensions



mm	A0	B0	W	F	E	P0	P1	P2	D1	D	K0	t
Dimension	2.80	3.71	8.00	3.50	1.75	4.00	4.00	2.00	1.50	1.00	1.75	0.25
Tolerance	$\pm 0.10$	$\pm 0.10$	$+0.30/-0.10$	$\pm 0.05$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.05$	$+0.10/-0.00$	$+0.25/-0.00$	$\pm 0.10$	$\pm 0.02$