

TCXO Temperature Compensated Crystal Oscillators 温补晶振

TCVCXO Temperature Compensated Voltage Controlled Oscillators 温补压控晶振

### 一、应用

通讯、航空、航天、军事、移动通信、数字程控交换机、网络传输、接入网、光传输、雷达、导航、电子对抗、无线通信、测试设备、锁相环电路 SDH、SONET、ATM、WLL、PCS 基站、蜂窝基站、频率合成器

### 二、主要技术指标

1) Frequency Range 频率范围: 1.00-80.00MHz

2) Initial Calibration 频率准确度: A  $\leq \pm 1.0\text{ppm}$  @25°C B  $\leq \pm 0.5\text{ppm}$  @25°C

3) Frequency Adjustment 频率调整: 1 Ageing adjustment:  $\geq \pm 5\text{ppm}$

2 No frequency adjustment

4) Operating Temperature 工作温度范围: C -20-+70°C D -40-+85°C E -55-+105°C

5) Frequency Stability 温度频率稳定度: F  $\pm 0.28\text{ppm}$  G  $\pm 0.5\text{ppm}$  H  $\pm 1.0\text{ppm}$   
I  $\pm 1.5\text{ppm}$  J  $\pm 2.0\text{ppm}$  K  $\pm 2.5\text{ppm}$

6) Output Waveform 输出波形: 1 Sine 正弦波 2 Hcoms 方波 3 Clipped Sine 削峰正弦波

7) Supply Voltage 工作电压范围: L 3.3V $\pm 10\%$  M 5.0V $\pm 10\%$

8) Ageing 频率老化率:  $\pm 1\text{ppm}$  maximum in first year,  $\pm 3\text{ppm}$  maximum for 10 years

9) Phase Noise 相位噪声:

Frequency	10Hz	100Hz	1kHz	10kHz	100kHz
13.0MHz	-95 dBc/Hz	-120dBc/Hz	-135dBc/Hz	-140dBc/Hz	-145dBc/Hz

10) Package Outline 封装、尺寸:

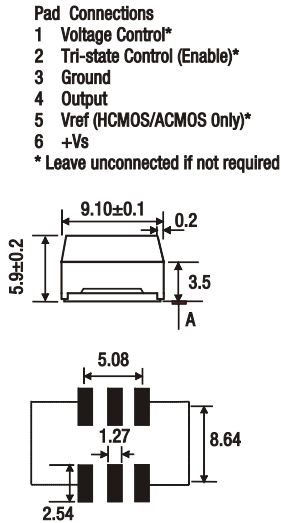
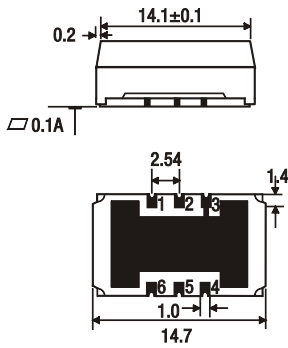
N DIP 21\*13\*5mm O DIP 18\*12\*5mm P DIP 20\*20\*10mm Q DIP 36\*27\*16mm  
R SMD 5\*3\*1mm S SMD 7\*5\*2mm T SMD 9\*7\*3mm U SMD 14\*9\*6mm

11) Storage Temperature 储存温度范围: -55-+125°C

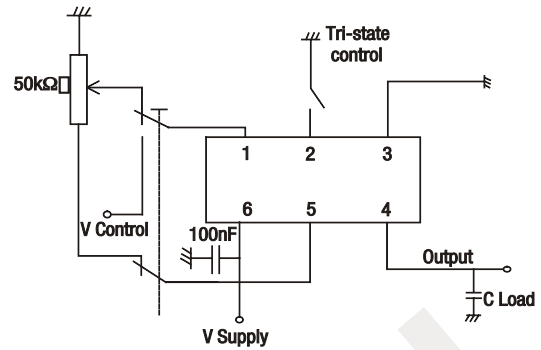
### 三、产品定型 RTT-10MHZ-B 2 D G 1 M S

	频率	准确度	频率调整	温度范围	稳定性	波形	电压	尺寸
RTT	10	B	2	D	G	1	M	S
RTT	10MHZ	$\pm 0.5\text{ppm}$ @25°C	No frequency adjustment	-40-+85 °C	$\pm$ 0.5ppm	Sine	5.0V	SMD 7*5*2mm

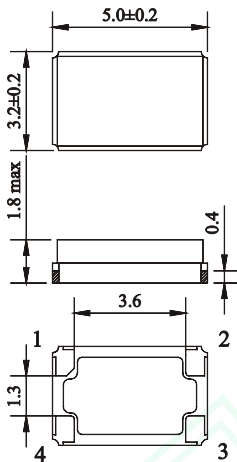
**A Outline in mm - (scale 1:1)**



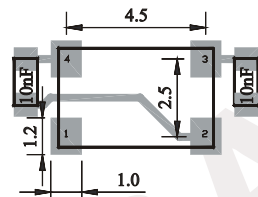
**Test Circuit**



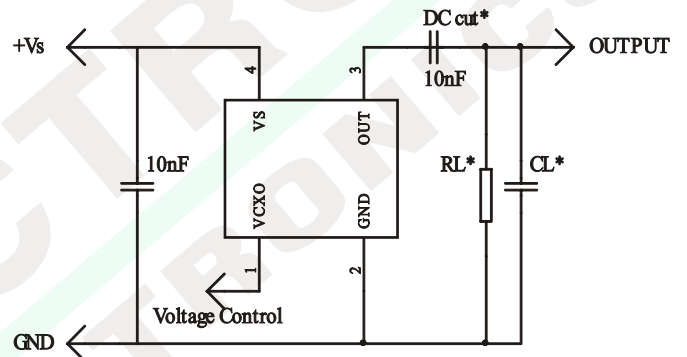
**B Outline in mm**



**Recommended PCB pattern**



**Test Circuit**



\*DC cut capacitor required for AC coupled Clipped sinewave.

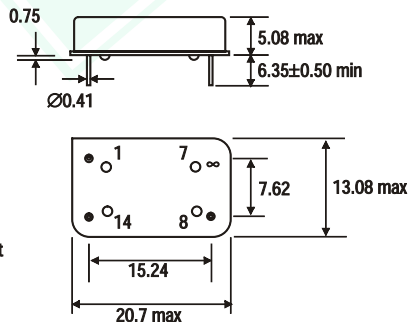
\*Load 15pF (HCMOS) or 10kΩ // 10pF (Clipped Sinewave), inclusive of probe and jig capacitance.

**Pad Function**

- 1 Voltage Control (leave unconnected in case the 'no frequency adjust' option has been ordered)
- 2 Ground
- 3 Output
- 4 Supply Voltage, Vs

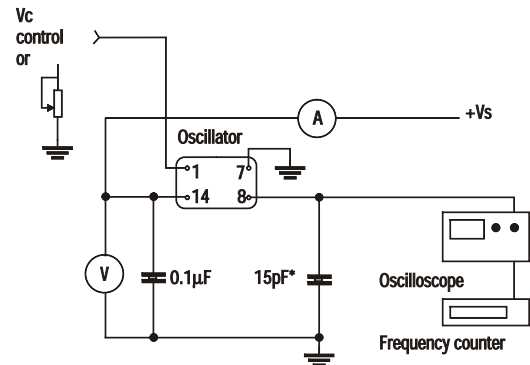
Low Profile option, 1.6mm max height.

**C Outline in mm**



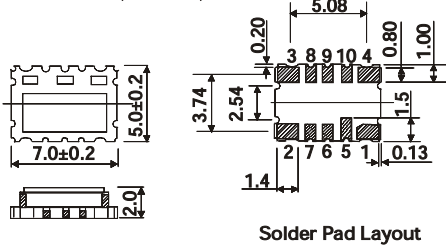
- Pin connections**
1. Frequency Adjust
  7. Case Ground
  8. Output
  14. +Vs

**Test Circuit - HCMOS**



\*Inclusive of jiggig & equipment capacitance

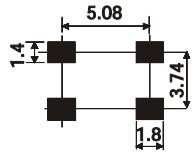
**D Outline in mm - (scale 2:1)**



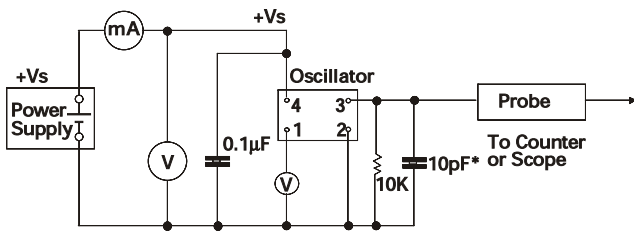
**Pin Connections**

- 1.V con
- 2.GND
- 3.Output
- 4.+Vs

**Solder Pad Layout**

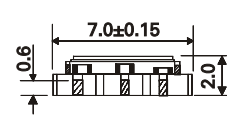


**E Test Circuit**



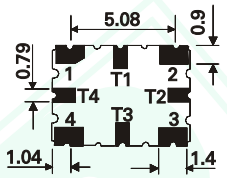
\* Inclusive of jiggging and equipment

**Outline in mm**

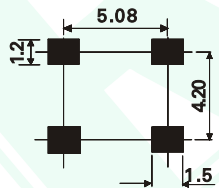


**Pad Connections**

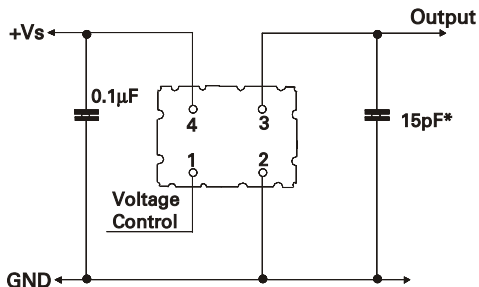
- 1. Voltage Control
  - 2. GND
  - 3. Output
  - 4. +Vs
- T1, T2, T3, T4,  
Do Not Connect



**Solder pad layout**

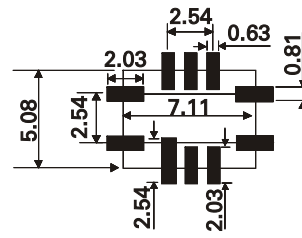


**F Test Circuit**

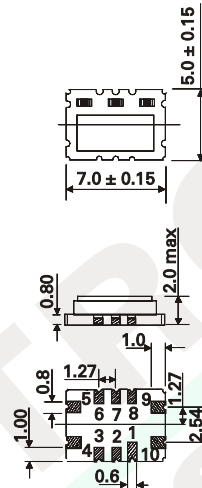


\* inclusive of probe and jig capacitance

**G Solder pad layout**



**Outline in mm**



**Pad Connections**

- 1. V ref
  - 2. N/C
  - 3. DC Coupled Output (do not connect)
  - 4. GND
  - 5. Output
  - 6. N/C
  - 7. N/C
  - 8. Tri-state Control (Enable)\*
  - 9. +Vs
  - 10. Voltage Control\*
- \*leave unconnected if not required.

**Test Circuit**

