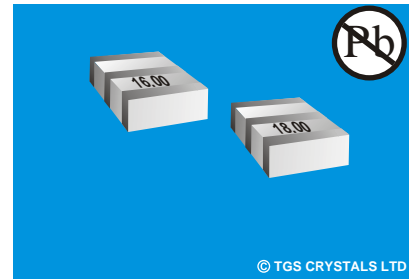


**FEATURES**

- Low Cost
- SMD Type For 3.7X3.1X1.2mm
- High Frequency Range
- With built in capacitor
- Lead Free available

**APPLICATIONS**

- Consumer Electronics
- Communications



**SPECIFICATION \***

Parameters	Product	Option Code
	ZTT	CRT
Dimensions:	3.7X3.1X1.2mm	△ S
Frequency Range:	13.01~50.00MHz	△ Specify
Frequency Accuracy :	±0.5%	▲
Temp. Stability At -20°C~80°C:	±0.3%	▲
Load Capacitance C1,C2:		
MT: 30pF (13.01 ~ 40.00MHz)	▲	
MX: 5pF (40.01~50.00MHz)	▲	
Operating Temp. Range:	-20°C~+80°C	▲
Storage Temp. Range:	-40°C~+85°C	▲
Equivalent Series Resistance (ESR):		
25 ohm Max. 8.00 ~ 40.00MHz	▲	
40 ohm Max. 40.01 ~ 50.00MHz	▲	
Withstanding Voltage:		
50V DC 1minute	▲	
Rating Voltage:		
D. C. Voltage: 6V. D. C.	▲	
A. C. Voltage: 15Vpp	▲	
Insulation Resistance:		
100M ohm Min.(at 10V DC)	▲	
Aging (Over 10 years):	±0.5% ppm	▲
Supply Voltage V <sub>DD</sub> :	+5.0V	▲
Applicable IC:	1/6TC4069UBP	△
Design Mode:	See Table 1	△ Specify
Package:	Tape/Reel	△ T
Other Values:	Lead Free	△ LF

▲ Standard \* Specifications Subject to Change Without Notice  
 △ Optional: please specify required code when inquiring or ordering

**PACKAGE**

- Standard package in T/R: 4000pcs/Reel, 2 Reel/inner box, 5 box/carton  
 See page 92 for detail dimensions

**STANDARD FREQUENCIES**

Frequency in MHz			
14.74000	16.93000	20.00000	27.00000
14.76000	18.00000	24.00000	33.86000
16.00000	18.43000		

**PART NUMBER GUIDE**

TGS	CR	T	V	33.86M	T	T
Mark	Ceramic Resonator	With built-in capacitance	Dimensions	Freq. Range	Design Mode	Package

e.g. Full P/N.: TGS CRTV 33.86M T T

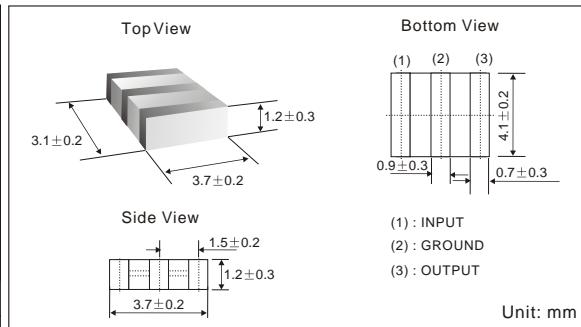
Updated on Oct.2004

www.tgs.cn www.tgscrystals.com

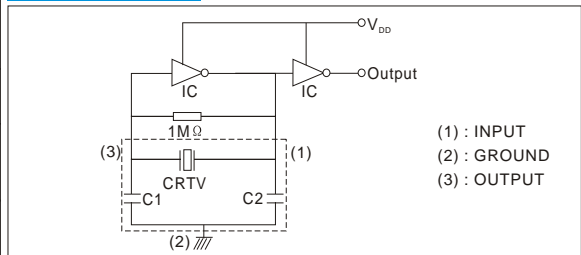
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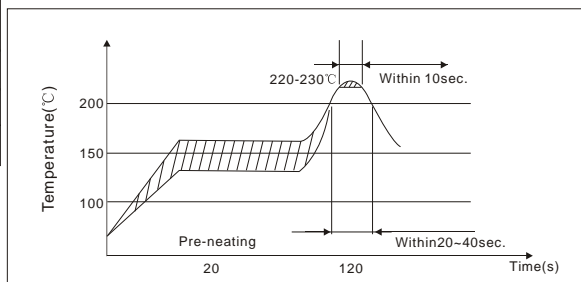
**DIMENSIONS**



**TEST CIRCUIT**



**RECOMMENDED REFLOW SOLDERING STANDARD CONDITIONS**



**RECOMMENDED LAND PATTERN**

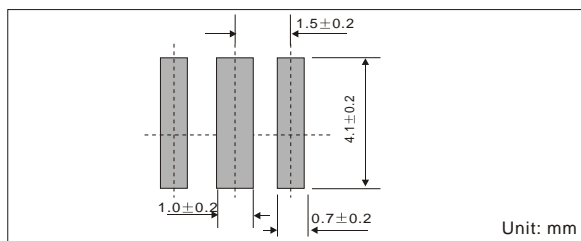


Table 1

Design Mode	Freq. Range	Option Code
Thickness Expander Mode	13.01 ~ 40.0MHz	T
Thickness Expander Mode (3rd Overtone)	40.01 ~ 50.0MHz	X