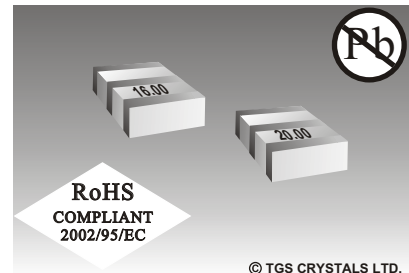


FEATURES

- Low Cost
- SMD Type For 4.7X4.1X1.6mm
- High Frequency Range
- With built in capacitor

APPLICATIONS

- Consumer Electronics
- Communications



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SPECIFICATION *

Parameters	Product	Option Code
	ZTT	CRT
Dimensions:	4.7X4.1X1.6mm	△ S
Frequency Range:	8.00~50.00MHz	△ Specify
Frequency Accuracy :	±0.5%	▲
Temp. Stability At -20°C~80°C:	±0.3%	▲
Load Capacitance C1,C2:		
MT: 30pF (8.00 ~ 13.00MHz)	▲	
MX: 15pF (13.01~40.00MHz)	▲	
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 ~ 13.00MHz	▲	
40 ohm Max. 13.01 ~ 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 _{DD} :	+5.0V	▲
Applicable IC:	1/6TC4069UBP	△
Design Mode:	See Table 1	△ Specify
Package:	Tape/Reel	△ T

▲ 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 123 for detail dimensions

STANDARD FREQUENCIES

Frequency in MHz			
8.000000	10.00000	16.93000	24.00000
8.180000	12.00000	18.00000	27.00000
8.380000	14.74000	18.43000	33.86000
9.000000	14.76000	20.00000	
9.600000	16.00000		

Table 1

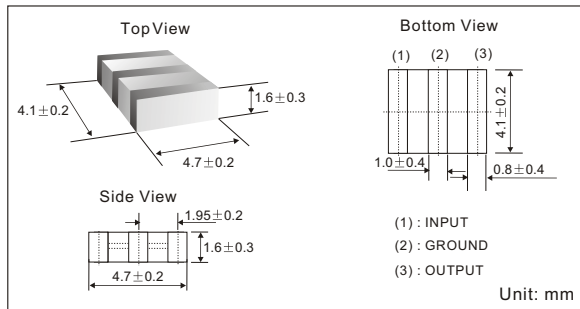
Design Mode	Freq. Range	Option Code
Thickness Expander Mode	8.000 ~ 13.0MHz	T
Thickness Expander Mode (3rd Overtone)	13.01 ~ 50.0MHz	X

PART NUMBER GUIDE

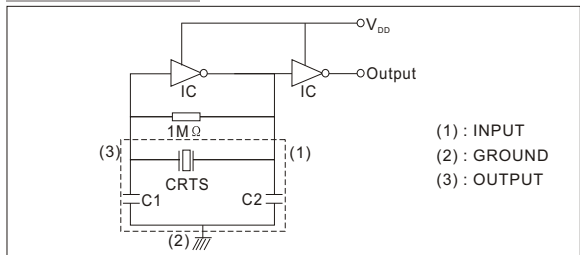
TGS	CR	T	S	12.0M	T	T
Mark	Ceramic Resonator	With built-in capacitance	Dimensions	Freq. Range	Design Mode	Package

e.g. Full P/N.: TGS CRTS 12.0M T T

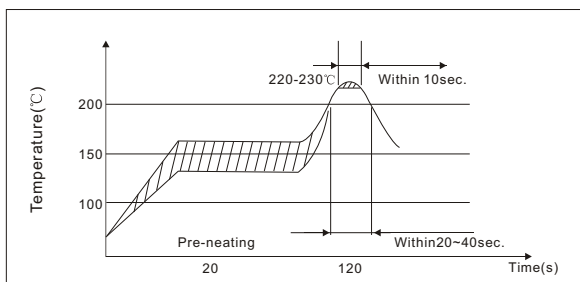
DIMENSIONS



TEST CIRCUIT



RECOMMENDED REFLOW SOLDERING STANDARD CONDITIONS



RECOMMENDED LAND PATTERN

