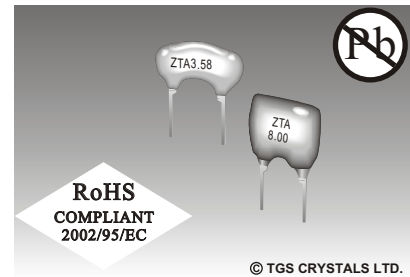


FEATURES

- Low cost
- Ex-stock Available
- 2 Pins
- Lead Free available
- Available Package in Tape/ Reel & AMNO-pack

APPLICATIONS

- Microprocessor Systems
- Data Communications
- Consumer Electronics
- Automotive Electronics



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SPECIFICATION \*

Parameters	Product	Option Code
	ZTA	CRA
Frequency Range:	2.0000~50.0MHz	△
Frequency Accuracy At 25°C:	±0.5%	▲
Temp. Stability At -20°C~80°C:	±0.3%	▲
Load Capacitance C1,C2:	MG & MT: 30pF MX: 30pF (12.10~19.99MHz) 15pF (20.00~25.99MHz) 5pF (26.00~50.00MHz)	▲ ▲ ▲ ▲
Operating Temp. Range:	-20°C~+80°C	▲
Storage Temp. Range:	-40°C~+85°C	▲
Equivalent Series Resistance (ESR):	80 Ω Max. (2.000~2.99MHz) 50 Ω Max. (3.000~3.49MHz) 30 Ω Max. (3.500~8.00MHz) 25 Ω Max. (8.010~12.0MHz) 30 Ω Max. (12.01~50.0MHz)	▲ ▲ ▲ ▲ ▲
Supply Voltage V <sub>DD</sub> :	MG & MX: +5V MT: +12V	▲ ▲
Withstanding Voltage (5Sec Max.):	100V DC	▲
Insulation Resistance(Ω):	5X10 <sup>-8</sup> Ω (+10V DC)	▲
Aging (Over 10 years):	±0.3ppm	▲
Design Mode:	See Table 1	△
Applicable IC:	MG & MT: 1/6TC4069UBP MX: 1/6TC74HCU04	△ △
Package:	AMNO-Pack Bulk Tape/Reel	△ △ △
Other Values:	Lead Free	△

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

PACKAGE

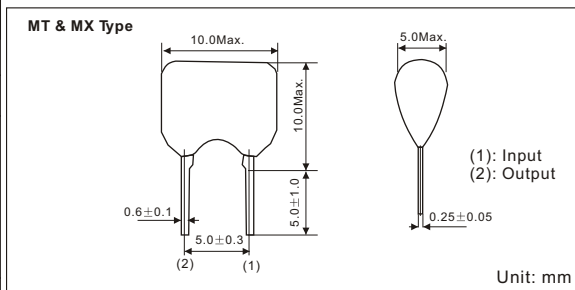
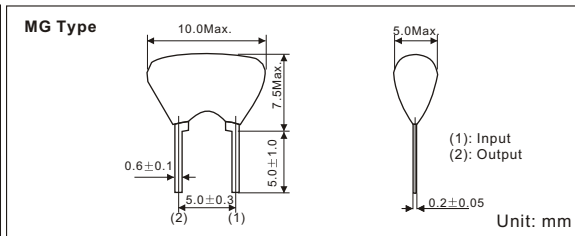
- Standard package in bulk: 500pcs/bag, 10 bags/inner box, 10 box/carton
- Available on T/R & AMNO-Pack - 2000pcs per reel. See page 122 for detail dimensions

PART NUMBER GUIDE

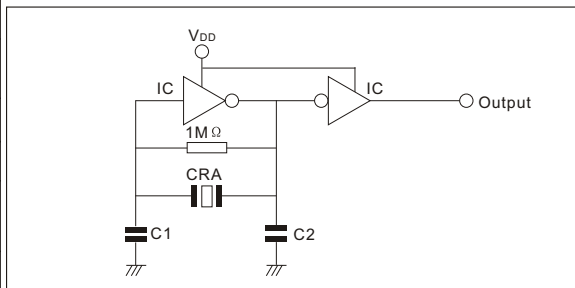
TGS	CR	A	3.58M	G	B
Mark	Ceramic Resonator	Without built-in Capacitance	Freq. Range	Design Mode	Package

e.g. Full P/N.: TGS CRA 3.58M G B

DIMENSIONS



TEST CIRCUIT FOR MT ,MT& MX TYPES



STANDARD FREQUENCIES

Frequency in MHz

2.000000	4.300000	9.000000	18.00000
2.400000	5.380000	9.600000	18.43000
2.500000	5.750000	10.00000	20.00000
3.580000	6.000000	12.00000	24.00000
3.640000	6.500000	14.74000	27.00000
3.680000	7.040000	14.76000	33.86000
3.800000	8.000000	16.00000	
4.000000	8.180000	16.93000	
4.190000	8.380000	16.93440	

Table 1

Design Mode	Freq. Range	Option Code
Thickness Shear Mode	2.000 ~ 8.00 MHz	G
Thickness Expander Mode	5.000 ~ 13.0 MHz	T
Thickness Expander Mode (3rd Overtone)	13.01 ~ 50.0 Mhz	X

