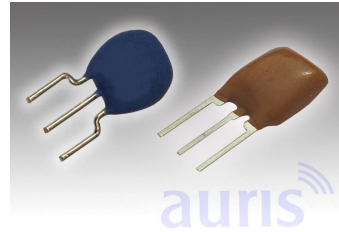


## Features

- Built-in capacitors
- Consumer electronics
- Microprocessor systems
- Excellent for automotive applications

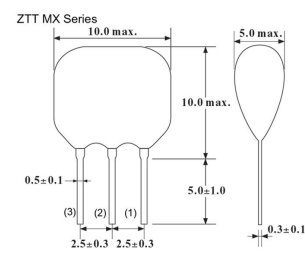
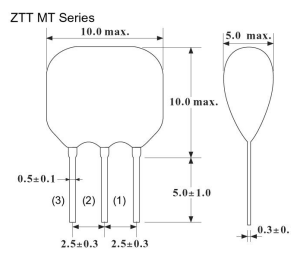
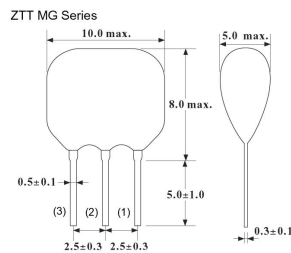


Res. THT/cap

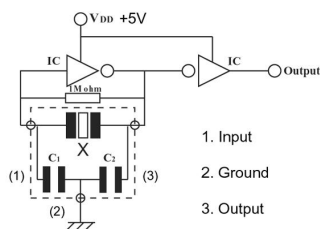
## Specification

Type	ZTTWS/MG	ZTTRS/MG	ZTT/MT	ZTT/MX
Frequency Range (MHz)	2,00~ 6,00	6,01 ~ 12,00	6,00 ~ 13,00	13,01 ~ 60,00
Frequency Tolerance (25°C)	±0,5%	±0,5%	±0,5%	±0,5%
Temperature Stability (-20°C - +80°C)	±0,3%	±0,3%	±0,3%	±0,3%
Aging (over 10 years)	±0,3%	±0,3%	±0,3%	±0,3%
Build-in load capacitance (pF) C1	30 ±20%	30 ±20%	30 ±20%	22 ±20%
Build-in load capacitance (pF) C2	30 ±20%	30 ±20%	30 ±20%	22 ±20%
Resonant impedance (Ω) max.	80	50	30	25
Content of bag	500 pcs	500 pcs	500 pcs	500 pcs
According to RoHS 2011/65/EU	yes	yes	yes	yes

## Drawing (mm)



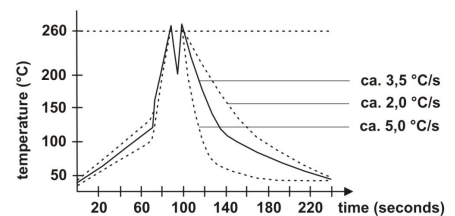
## Test Circuit/Waveform



C1 C2: as listed above  
 MG/MT IC: 1/6TC4069UBPx2  
 MX IC: 1/6TC74HCU04x2  
 X: Ceramic Resonator  
 VDD: 5V

1. Input
2. Ground
3. Output

## Soldering profile



## Order code

R Part	- 13.000000M Frequency	- ZTT/MT Type/Package	- 0.5 Frequency tolerance (25°C)	- 0.3 Temperature tolerance (Temp. range)	- H Temperature range	- 30/30 Internal load capacitance pF C1/C2
R=Resonator	M=MHz	ZTTWS/MG ZTTRS/MG ZTT/MT ZTT/MX	±%	±% (Temp. range)	H=-20°C ~ +80°C	