



Ceramic Resonators

Chip Ceramic Resonator - ZTAC/ZTTC SMD Series / 贴片陶瓷谐振器

ZTTC series features a built-in load capacitance. This feature eliminates any need for external loading capacitors and reduces component count, increases reliability and reduces size.

ZTAC series functions same as the ZTA series with two terminals without capacitor. These unit are offered in the frequency range from 1.79 MHz to 50.00 MHz with an initial frequency tolerance of $\pm 0.5\%$.

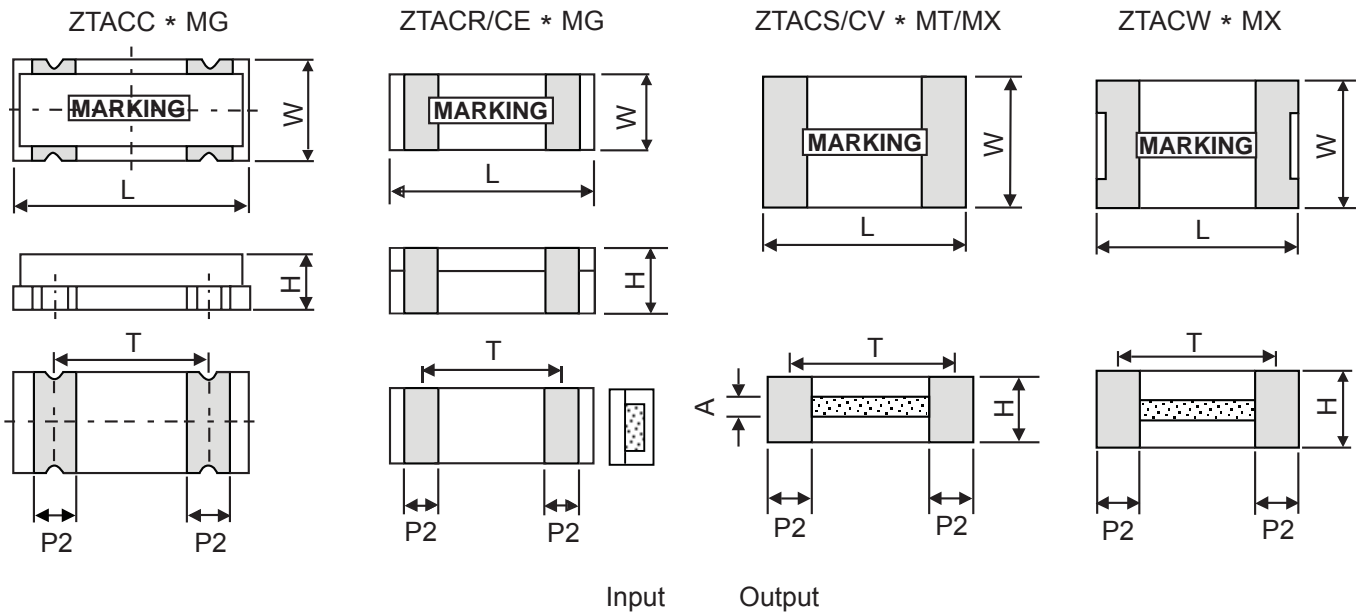
► ZTAC / ZTTC (Compatible to Murata CSAC/CSTC)

1.79 - 50.00 MHz

ZTAC/ZTTC Resonator Technical Characteristics

| Part Number | Frequency Range (MHz) | Frequency Accuracy (%) | Stability in Temperature (-20°C ~ +80°C) (%) | Aging for Ten Years(%) |
|---------------------|-----------------------|------------------------|--|------------------------|
| ZTACC*MG / ZTTC*MG | 1.79 ~ 8.00 | ± 0.5 | ± 0.3 | ± 0.3 |
| ZTACR*MG / ZTTCR*MG | 4.00 ~ 8.00 | ± 0.5 | ± 0.3 | ± 0.3 |
| ZTACS*MT / ZTTC*MT | 6.00 ~ 13.00 | ± 0.5 | ± 0.4 | ± 0.3 |
| ZTACV*MT / ZTTCV*MT | 8.00 ~ 13.00 | ± 0.5 | ± 0.4 | ± 0.3 |
| ZTACE*MG / ZTTC*MG | 8.00 ~ 13.00 | ± 0.5 | ± 0.4 | ± 0.3 |
| ZTACS*MX / ZTTC*MX | 13.01 ~ 50.00 | ± 0.5 | ± 0.3 | ± 0.3 |
| ZTACV*MX / ZTTCV*MX | 16.00 ~ 50.00 | ± 0.5 | ± 0.3 | ± 0.3 |
| ZTACW*MX / ZTTCW*MX | 20.00 ~ 45.00 | ± 0.5 | ± 0.3 | ± 0.3 |

► Ceramic Resonator ZTAC Dimensions



| Part Number | Dimensions (Unit: mm) | | | | |
|-------------|-----------------------|---------------|-------------------|---------------|---------------|
| | L | W | H | P2 | T |
| ZTACC*MG | 7.4 \pm 0.2 | 3.4 \pm 0.2 | 1.8 \pm 0.2 | 1.2 \pm 0.2 | 5.0 \pm 0.3 |
| ZTACR*MG | 4.5 \pm 0.2 | 2.0 \pm 0.2 | 1.2max | 0.8 \pm 0.2 | 3.0 \pm 0.2 |
| ZTACE*MG | 3.2 \pm 0.1 | 1.3 \pm 0.1 | 1.0max | 0.4 \pm 0.1 | 2.4 \pm 0.1 |
| ZTACS*MT/MX | 4.7 \pm 0.2 | 4.1 \pm 0.2 | (1.2+A) \pm 0.2 | 0.8 \pm 0.2 | 3.9 \pm 0.2 |
| ZTACV*MT/MX | 3.7 \pm 0.2 | 3.1 \pm 0.2 | (1.0+A) \pm 0.2 | 0.7 \pm 0.2 | 3.0 \pm 0.2 |
| ZTACW*MX | 2.5 \pm 0.2 | 2.0 \pm 0.2 | 1.5max | 0.4 \pm 0.2 | 2.0 \pm 0.2 |

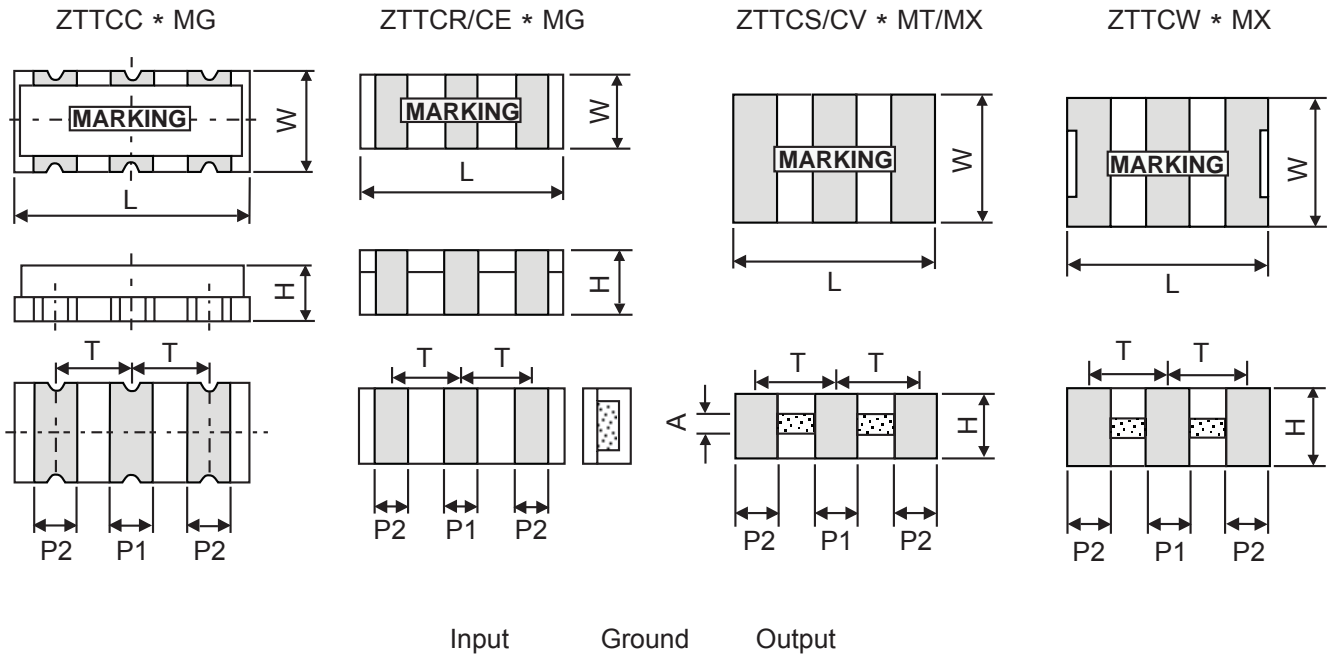
Note: A stands for thickness of the ceramic element, which varies with the frequency.

The range of the thickness is 0.1 to 0.7mm.



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ZTTC Dimensions

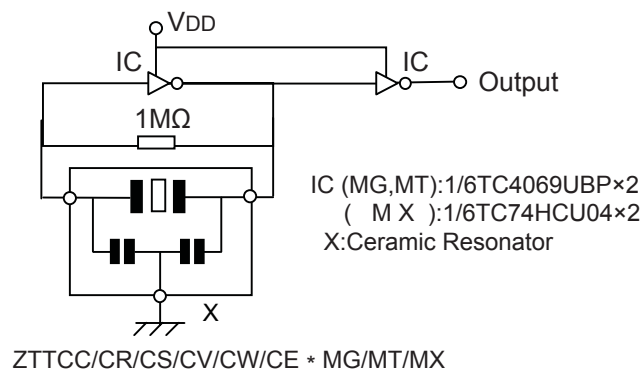


| Part Number | Dimensions (Unit: mm) | | | | | |
|-------------|-----------------------|---------|-------------|---------|---------|----------|
| | L | W | H | P1 | P2 | T |
| ZTTC*MG | 7.4±0.2 | 3.4±0.2 | 1.8±0.2 | 1.2±0.2 | 1.2±0.2 | 2.5±0.3 |
| ZTTCR*MG | 4.5±0.2 | 2.0±0.2 | 1.2max | 0.8±0.2 | 0.8±0.2 | 1.5±0.2 |
| ZTTCV*MT | 3.2±0.1 | 1.3±0.1 | 1.0max | 0.4±0.1 | 0.4±0.1 | 1.2±0.1 |
| ZTTCV*MT/MX | 4.7±0.2 | 4.1±0.2 | (1.2+A)±0.2 | 1.0±0.2 | 0.8±0.2 | 1.95±0.2 |
| ZTTCV*MT/MX | 3.7±0.2 | 3.1±0.2 | (1.0+A)±0.2 | 0.9±0.2 | 0.7±0.2 | 1.5±0.2 |
| ZTTCW*MX | 2.5±0.2 | 2.0±0.2 | 1.5max | 0.5±0.2 | 0.4±0.2 | 1.0±0.2 |

Note: A stands for thickness of the ceramic element, which varies with the frequency.

The range of the thickness is 0.1 to 0.7mm.

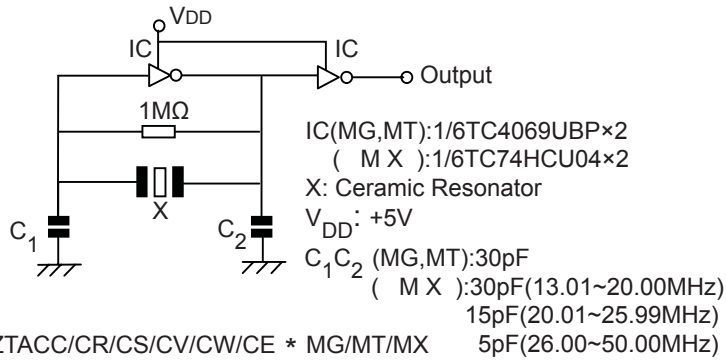
ZTTC Test Circuit for MOS IC



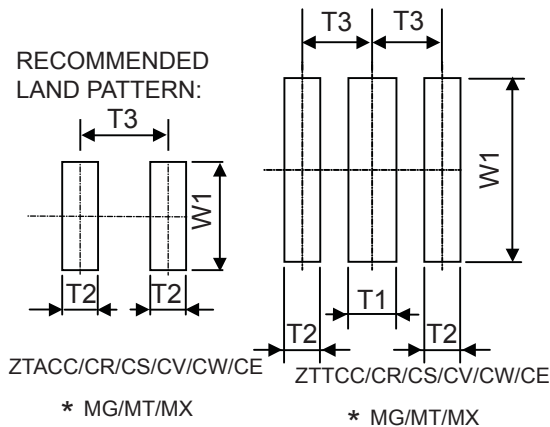


Ceramic Resonators

▶ ZTAC Test Circuit for MOS IC



▶ Recommended Land Pattern



| Part Number | Dimensions (Unit: mm) | | | |
|-------------|-----------------------|---------|----------|---------|
| | T1 | T2 | T3 | W1 |
| ZTACC*MG | | 1.7±0.3 | 5.0±0.3 | 4.0±0.3 |
| ZTACR*MG | | 0.8±0.2 | 3.0±0.2 | 2.6±0.2 |
| ZTACS*MT/MX | | 0.8±0.2 | 3.9±0.2 | 5.0±0.2 |
| ZTACV*MT/MX | | 0.7±0.2 | 3.0±0.2 | 4.1±0.2 |
| ZTACW*MX | | 0.5±0.2 | 2.0±0.2 | 2.6±0.2 |
| ZTTC*MG | | | | |
| ZTTC*MG | 1.5±0.3 | 1.7±0.3 | 2.5±0.3 | 4.0±0.3 |
| ZTTCR*MG | 0.8±0.2 | 0.8±0.2 | 1.5±0.2 | 2.6±0.2 |
| ZTTC*MT/MX | 1.3±0.2 | 0.8±0.2 | 1.95±0.2 | 5.0±0.2 |
| ZTTCV*MT/MX | 1.0±0.2 | 0.7±0.2 | 1.5±0.2 | 4.1±0.2 |
| ZTTCW*MX | 0.5±0.2 | 0.5±0.2 | 1.0±0.2 | 2.6±0.2 |

▶ How to Order

ZTACC5.00MG

①

T

②

① Part Number

② Packaging (T: Taping Reel)

