

- ▶ Low Frequencies
- ▶ RoHS Compliant (Note 7 Exemption)
- ▶ Extended temperature range.

ZTB/ZTBF SERIES CERAMIC RESONATOR

The ZTB Series ceramic resonator offers low frequency and extended temperature range capabilities. The ZTBF option is a formed lead version for SMD applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PART NUMBER * | FREQUENCY RANGE (KHz) | FREQUENCY ACCURACY @ 25°C (%) | FREQUENCY STABILITY -20 ~ +80°C (%) | AGING FOR TEN YEARS (%) | ESR (Ω) MAX. | C1 (pF) | C2 (pF) |
|---------------|-----------------------|-------------------------------|-------------------------------------|-------------------------|--------------|---------|---------|
| ZTB□□□D | 190 ~ 249 | ± 1.0 KHz | ± 0.3 | ± 0.5 | 20 | 330 | 470 |
| ZTB□□□D | 250 ~ 374 | ± 1.0 KHz | ± 0.3 | ± 0.5 | 20 | 220 | 470 |
| ZTB□□□P | 375 ~ 429 | ± 2.0 KHz | ± 0.3 | ± 0.5 | 20 | 120 | 470 |
| ZTB□□□E | 430 ~ 449 | ± 2.0 KHz | ± 0.3 | ± 0.5 | 20 | 100 | 100 |
| ZTB□□□E | 450 ~ 509 | ± 2.0 KHz | ± 0.3 | ± 0.5 | 20 | 100 | 100 |
| ZTB□□□P | 510 ~ 699 | ± 2.0 KHz | ± 0.3 | ± 0.5 | 35 | 100 | 100 |
| ZTB□□□J | 700 ~ 999 | ± 0.5% | ± 0.3 | ± 0.5 | 70 | 100 | 100 |
| ZTB□□□MJ | 1000 ~ 1250 | ± 0.5% | ± 0.3 | ± 0.5 | 100 | 100 | 100 |

Complete part number to include frequency i.e. ZTB500E (500=500 KHz)

PACKAGE DIMENSIONS (mm)

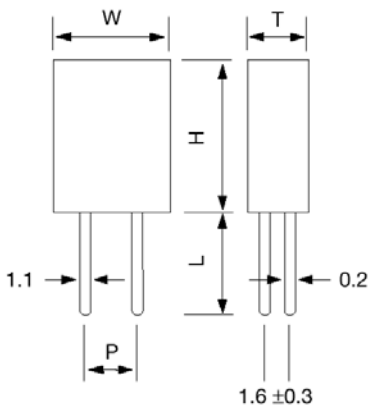


Figure 1) 190 ~ 249 KHz Front and Side Views

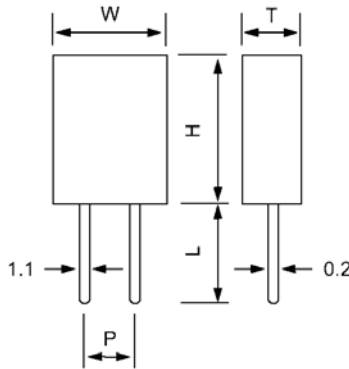


Figure 2) 250 ~ 1250 KHz, Front and Side Views

| FREQUENCY RANGE (KHz) | DIMENSIONS (mm) | | | | |
|-----------------------|-----------------|-----|------|------|-----|
| | W | T | H | P | L |
| 190-249 | 13.5 | 3.8 | 14.7 | 10.0 | 8.0 |

| FREQUENCY RANGE (KHz) | DIMENSIONS (mm) | | | | |
|-----------------------|-----------------|-----|------|-----|-----|
| | W | T | H | P | L |
| 250-374 | 11.0 | 3.8 | 12.2 | 7.7 | 7.0 |
| 375-449 | 7.9 | 3.6 | 9.3 | 5.0 | 5.0 |
| 450-699 | 7.0 | 3.5 | 9.0 | 5.0 | 5.0 |
| 700-1250 | 5.0 | 2.2 | 6.0 | 2.5 | 3.5 |

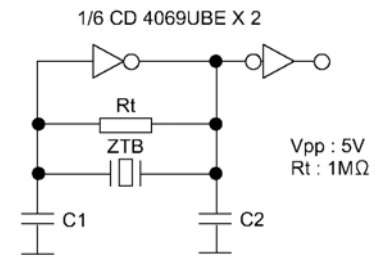


Figure 3) Test Circuit

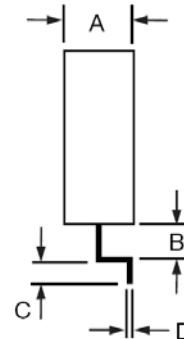


Figure 4) ZTBF (formed lead option) Land Pattern

| PART NUMBER | FREQ. RANGE | A | B | C | D |
|-------------|-------------|---------|---------|---------|-----------|
| ZTBF□□□P | 375-429 | 3.6±0.5 | 0.9±0.3 | 1.5±0.3 | 0.15±0.05 |
| ZTBF□□□E | 430-509 | 3.5±0.5 | 0.9±0.3 | 1.5±0.3 | 0.15±0.05 |
| ZTBF□□□P | 510-699 | 3.5±0.5 | 0.9±0.3 | 1.5±0.3 | 0.15±0.05 |
| ZTBF□□□J | 700-999 | 2.2±0.5 | 0.6±0.3 | 1.0±0.3 | 0.12±0.05 |
| ZTBF□□□MJ | 1000-1250 | 2.2±0.5 | 0.6±0.3 | 1.0±0.3 | 0.12±0.05 |

PART NUMBERING GUIDE: "Example" ZTB500E

