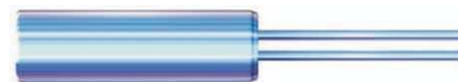


FEATURE

- Wide Frequency range
- High shock tolerance
- Small size
- Reliable frequency stability

APPLICATIONS

- Microprocessor Systems
- Consumer Electronics
- Instrumentation
- Automotive electronics



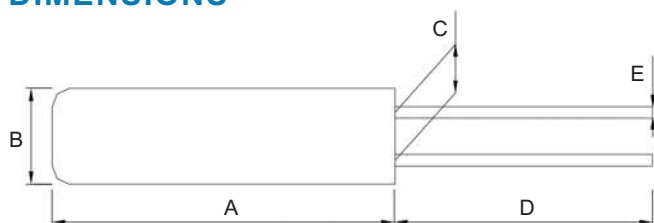
ELECTRICAL SPECIFICATIONS

| Frequency Range | Φ3x10 | Φ3x8 / Φ3x9 |
|--|--|---------------------|
| | | 3.579MHz ~ 4.000MHz |
| Frequency Tolerance(at 25°C) | ±10ppm to ±100ppm | |
| Frequency Stability | ±10ppm to ±100ppm | |
| Load Capacitance(C _L) | 20pF, or specify | |
| Equivalent Series Resistance | See Below Table | |
| Operating Temperature Range | -10°C to +60°C, -20°C to +70°C, -40°C to +85°C | |
| Storage Temperature Range | -40°C to +85°C | |
| Aging @25°C 1 st year (Max) | ±5ppm/year | |
| Shunt Capacitance(C ₀) | 1.35pF Typ | 5.0pF Max |
| Drive Level(Typical) | 1 μW Max | 100 μW Max |
| Insulation Resistance | 500MΩ Min at DC100V | |

EQUIVALENT SERIES RESISTANCE(ESR) AND OSCILLATION MODE

| Frequency(MHz) | E.S.R.(Ω) | Mode | Frequency(MHz) | E.S.R.(Ω) | Mode |
|----------------|-----------|-------------|----------------|-----------|--------------|
| 3.579~3.999 | 150Max | Fundamental | 10.000~26.999 | 50Max | Fundamental |
| 4.000~5.999 | 120Max | Fundamental | 27.000~35.999 | 100Max | 3rd Overtone |
| 6.000~9.999 | 80Max | Fundamental | 36.000~70.000 | 80Max | 3rd Overtone |

DIMENSIONS



| Model | A | B | C | D | E |
|--------|------|------|-----|------|-----|
| 3x8mm | 8.3 | Φ3.1 | 0.8 | 10.0 | 0.3 |
| 3x9mm | 9.3 | Φ3.1 | 0.8 | 10.0 | 0.3 |
| 3x10mm | 10.1 | Φ3.1 | 0.8 | 10.0 | 0.3 |

| Temperature Range | Frequency Stability (ppm) | | | | |
|-------------------|---------------------------|--------|--------|---------|---------|
| | ±20ppm | ±30ppm | ±50ppm | ±100ppm | ±150ppm |
| 0~+50°C | √ | √ | √ | √ | √ |
| -10~+60°C | √ | √ | √ | √ | √ |
| -20~+70°C | √ | √ | √ | √ | √ |
| -30~+80°C | | | | √ | √ |
| -40~+85°C | | | | | √ |

PART NUMBER

| | | | | | | | | | |
|-----------------------|--|---|---|---|--|---|--|---|--|
| 3X8- 3X9- 3X10- | 16.000 Frequency e.g: 16.000 :16.000MHz | - | 20 Load Capacitance e.g:20:20pF | - | 30 Frequency Tolerance e.g: 30:±30ppm | - | 30 Frequency Stability e.g: 30:±30ppm | - | A Operating Temperature Range A:-20~70°C B:-10~60°C E:-40~85°C |
|-----------------------|--|---|---|---|--|---|--|---|--|