

XT38P

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Miniature SMD Watch Crystal



The XT38P is a 2.5 mm height plastic molded 32.768 KHz SMD crystal unit. This thermoplastic molded rugged part is perfect for your SMD applications in limited circuit space using the watch frequency.

FEATURES

- 2.5 mm height
- Industry standard footprint
- Long term stability
- Tape and reel, 3000 pcs
- 100 % Lead (Pb)-free and RoHS compliant

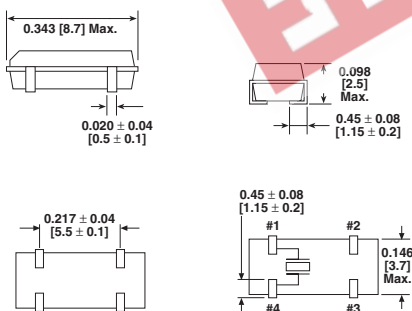


RoHS
COMPLIANT

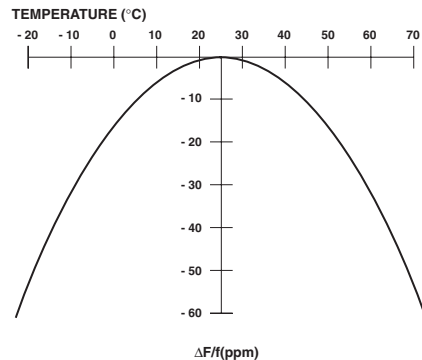
| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | |
|------------------------------------|-------------------|-----------------------|---------------------|--------|---------|--------|
| PARAMETER | SYMBOL | CONDITION | UNIT | MIN | TYPICAL | MAX |
| Frequency Range | F _O | | KHz | | 32.768 | |
| Frequency Tolerance | ΔF/F _O | at 25 °C | ppm | -20 | | +20 |
| Frequency Coefficient | K | parabolic coefficient | ppm/°C ² | -0.027 | -0.035 | -0.043 |
| Operating Temperature Range | T _{OPR} | | °C | -40 | | +85 |
| Storing Temperature Range | T _{STG} | | °C | -55 | | +125 |
| Shunt Capacitance | C _O | | pF | | 1.0 | |
| Motional Capacitance | C ₁ | | pF | | 2.0 | |
| Load Capacitance | CL | | pF | | 12.5 | |
| Insulation Resistance | IR | | MΩ | 500 | | |
| Drive Level | DL | | μW | | | 1.0 |
| Aging (first year) | Fa | at 25 °C ± 3 °C | ppm | | ±3.0 | |
| Equivalent Series Resistance(ESR) | R _s | | KΩ | | | 50 |

DIMENSIONS in inches [millimeters]

XT38PA



PARABOLIC TEMPERATURE CURVE



| ORDERING INFORMATION | | | |
|----------------------|------------|-------------------|-------------------------------|
| XT38P | A | 32.768 KHz | e6 |
| MODEL | PAD LAYOUT | FREQUENCY/KHz | JEDEC Lead (Pb)-Free STANDARD |

To determine frequency stability, use parabolic curvature (k).
For example: What is stability at 45 °C?

- 1) Change in Temperature (°C) = 45 - 25 = 20 °C
- 2) Change in Frequency = - 0.042 ppm*(Δ°C)
= - 0.042 ppm*(20)²
= - 16.8 ppm(max)

| GLOBAL PART NUMBER | | | | | | | | | | | | |
|--------------------|---|---|---|---|------------|--------------|-----------|---|---|---|---|---|
| X | T | 3 | 8 | P | A | A | 3 | 2 | K | 7 | 6 | 8 |
| MODEL | | | | | PAD LAYOUT | PACKAGE CODE | FREQUENCY | | | | | |