



- **FEATURES**
  - DESIGNED FOR TIME OF DAY CLOCKS APPLICATIONS
  - SMALL COMPACT SIZE WITH PERFORMANCE AND ECONOMY
  - EXCELLENT SHOCK AND ENVIRONMENTAL CHARACTERISTICS

● **SPECIFICATIONS**

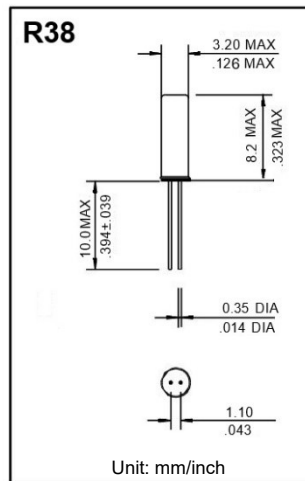
| PARAMETERS                         | VALUE   |
|------------------------------------|---|
| NOMINAL FREQUENCY                  | 32.768 kHz  |
| FREQUENCY TOLERANCE                | ±20 ppm Standard<br>±5 ppm and ±10 ppm Available            |
| TURNOVER TEMPERATURE               | 25°C ±5°C   |
| PARABOLIC CURVATURE CONSTANT (TYP) | -0.034±0.006 ppm/°C <sup>2</sup>                            |
| LOAD CAPACITANCE                   | 6 to 12.5 pF  |
| EQUIVALENT SERIES RESISTANCE (MAX) | 30 kΩ   |
| DRIVE LEVEL (MAX)                  | 1.0 μW  |
| MOTIONAL CAPACITANCE (TYP)         | 0.0035 pF   |
| SHUNT CAPACITANCE (TYP)            | 1.6 pF  |
| CAPACITANCE RATIO (TYP)            | 460   |
| AGING (FIRST YEAR MAX)             | ±3 ppm  |
| QUALITY FACTOR (TYP)               | 60000   |
| INSULATION RESISTANCE (MIN)        | 500 MΩ  |
| OPERATING TEMPERATURE RANGE        | -40°C to +85°C  |
| STORAGE TEMPERATURE RANGE          | -40°C to +85°C  |
| SHOCK RESISTANCE                   | ±5 ppm max 75 cm drop test in<br>3 axes onto a hard surface |



SCALE NONE DIMENSION IN mm/INCH

Notes: FREQUENCY DEVIATION AT T IS GIVEN AS:  $\Delta f/f = K (T_o - T)^2$ , WHERE K IS PARABOLIC CURVATURE CONSTANT

● **MECHANICAL SPECIFICATION**



● **PART NUMBERING SYSTEM**

| TYPE | - | FREQUENCY kHz | - | LOAD CAPACITANCE pF | - | TOLERANCE ppm                              |
|------|---|---------------|---|---------------------|---|--|
| R38  | - | 32.768        | - | 6 to 12.5           | - | Blank: ±20 ppm<br>5: ±5 ppm<br>10: ±10 ppm |

EXAMPLE: R38-32.768-6-10

Tuning Fork Crystal 3x8 mm, 32.768 kHz, 6 pF, ±10 ppm