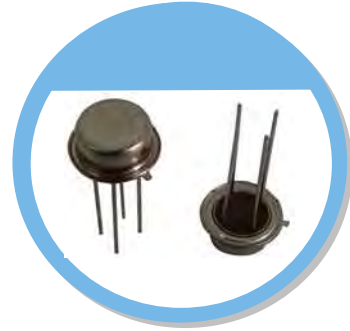


# X6(TO-5) Type

## FEATURE

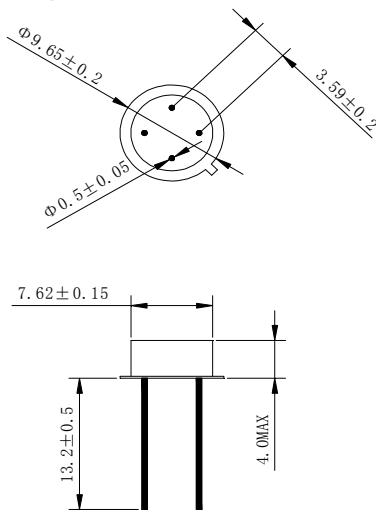
- $\varnothing 9.85 \times 4.0$  mm TO-5 Cold Weld
- Gold electrode, vacuum
- Fast warm up
- High stability, low temperature frequency coefficient
- Good aging and reliability



## TYPICAL APPLICATION

- Precision OCXO, VCXO and TCXO oscillators

## DIMENSION (mm)



## EQUIVALENT SERIES RESISTANCE (E.S.R)

| Frequency Range                                 | MODE(Cut)             | E.S.R.           |
|---|-----------------------|------------------|
| $19.2 \text{ MHz} \leq F_o \leq 22 \text{ MHz}$ | SC 3 <sup>rd</sup> OT | $\leq 100\Omega$ |
| $22 \text{ MHz} < F_o \leq 30 \text{ MHz}$      | SC 3 <sup>rd</sup> OT | $\leq 60\Omega$  |
| $30 \text{ MHz} < F_o \leq 80 \text{ MHz}$      | SC 3 <sup>rd</sup> OT | $\leq 50\Omega$  |
| $80 \text{ MHz} < F_o \leq 120 \text{ MHz}$     | SC 5 <sup>th</sup> OT | $\leq 110\Omega$ |

## ELECTRICAL SPECIFICATION

| Parameter                  | Min.  | Typical | Max.    | Unit               |
|----------------------------|---|---------|---------|--------------------|
| Operating Temp. Range      | -55   |         | +105    | $^{\circ}\text{C}$ |
| Standard Frequency         | 20, 25, 40, 100   |         |         | MHz                |
| Turn Point                 | +75 $^{\circ}\text{C}$ to +105 $^{\circ}\text{C}$ (mode, cut, frequency dependent, other turn points) |         |         | $^{\circ}\text{C}$ |
| Frequency Tolerance @ Turn | $\pm 3$   | $\pm 5$ | $\pm 8$ | ppm                |
| Level of Drive             |   | 100     | 500     | $\mu\text{W}$      |
| Shunt Capacitance (C0)     |   |         | 7.0     | pF                 |
| Insulation Resistance      | 500M $\Omega$ @ DC100V  |         |         |                    |
| Aging                      | $\pm 0.5$ to $\pm 1.0$  |         |         | ppm/year           |

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

## STANDARD OPTIONS

| Nominal Frequency | MODE(Cut)             | R( $\Omega$ ) | C0(pF)  | C1(fF)          | Q(Typical) | Aging(ppm/year) |
|-------------------|-----------------------|---------------|---------|-----------------|------------|-----------------|
| 20 MHz            | IT 3 <sup>rd</sup> OT | $< 100$       | $< 3.0$ | $0.17 \pm 20\%$ | 650k       | 0.06            |
| 25 MHz            | IT 3 <sup>rd</sup> OT | $< 60$        | $< 3.5$ | $0.54 \pm 20\%$ | 380k       | 0.07            |
| 40 MHz            | SC 3 <sup>rd</sup> OT | $< 60$        | $< 4.0$ | $0.31 \pm 20\%$ | 270k       | 0.3             |
| 100 MHz           | SC 5 <sup>th</sup> OT | $< 110$       | $< 5.0$ | $0.15 \pm 30\%$ | 120k       | 0.5             |