

- Frequency range 16MHz to 60MHz, fundamental mode
- Ultra-miniature package 2.5 x 2.0 x 0.6mm
- Packaged in standard EIA tape and reel
- Ideal for PDAs, hand-held GPS, PCMCIA etc.

DESCRIPTION

X22 crystals are ultra-miniature AT-cut crystals covering the frequency range 16.0MHz to 60.0MHz in fundamental mode. The X22 crystal package is grounded via the top metal lid and two solder pads. the part exhibits very low ageing and has high shock and vibration resistance. The small size and low mass makes these crystals ideal for miniaturized hand-held equipment and similar high-density applications.

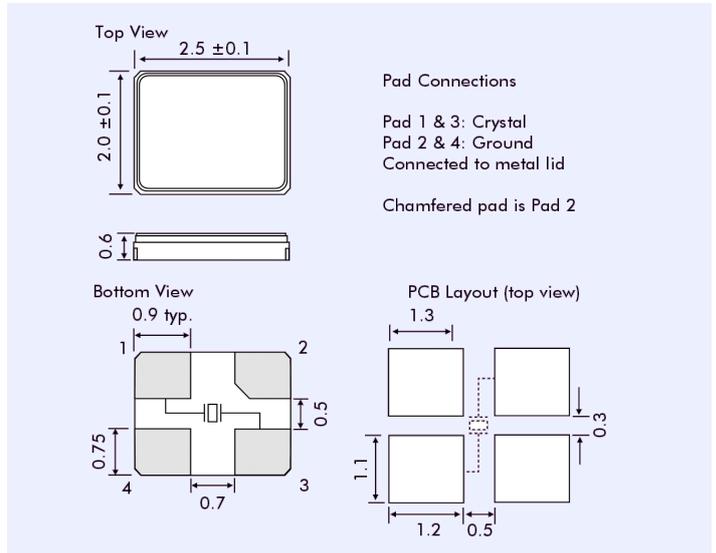
SPECIFICATION

| | | |
|--------------------------------|---------------------|--|
| Frequency Range | AT-Cut Fundamental: | 16.0MHz to 60.0MHz |
| Calibration Tolerance at 25°C: | | ±10ppm, ±20ppm, ±30ppm |
| Frequency stability | | |
| -10° to +60°C | | from ±5ppm |
| -20° to +70°C | | from ±10ppm |
| -40° to +85°C | | from ±15ppm |
| Storage Temperature: | | -50°~+105°C |
| Equivalent Series Resistance: | | See table |
| Shunt Capacitance (C0): | | 2pF to 4pF typical, 5pF maximum |
| Load Capacitance (CL): | | Series or from 9pF to 32pF |
| Ageing: | | < ±2ppm per year at +25°C |
| Drive level: | | 50 microWatt, 100 microW max. |
| Reflow Soldering: | | 10s maximum at 260°C twice or once, 180s at 230°C. |
| Packaging: | | EIA tape and reel |



2.5 x 2.0 x 0.6mm SMD

OUTLINE & DIMENSIONS



FREQUENCY STABILITY vs. OPERATING TEMPERATURE RANGE

| Stability Code | Temperature Range | Stability ppm | | | | | |
|----------------|-------------------|---------------|-----|-----|-----|-----|-----|
| | | ±5 | ±10 | ±15 | ±20 | ±25 | ±30 |
| X | -10 to +60°C | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Y | -20 to +70°C | ■ | ✓ | ✓ | ✓ | ✓ | ✓ |
| I | -40 to +85°C | | | ✓ | ✓ | ✓ | ✓ |

✓ = available, ■ = contact Mercury

EQUIVALENT SERIES RESISTANCE

| Frequency Range MHz | ESR Ohms Max. |
|---------------------|---------------|
| 16.0~21.0 | 120 |
| 21.0~26.0 | 80 |
| 26.1~60.0 | 60 |

PART NUMBER FORMAT

