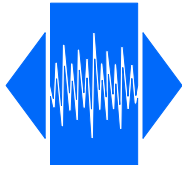


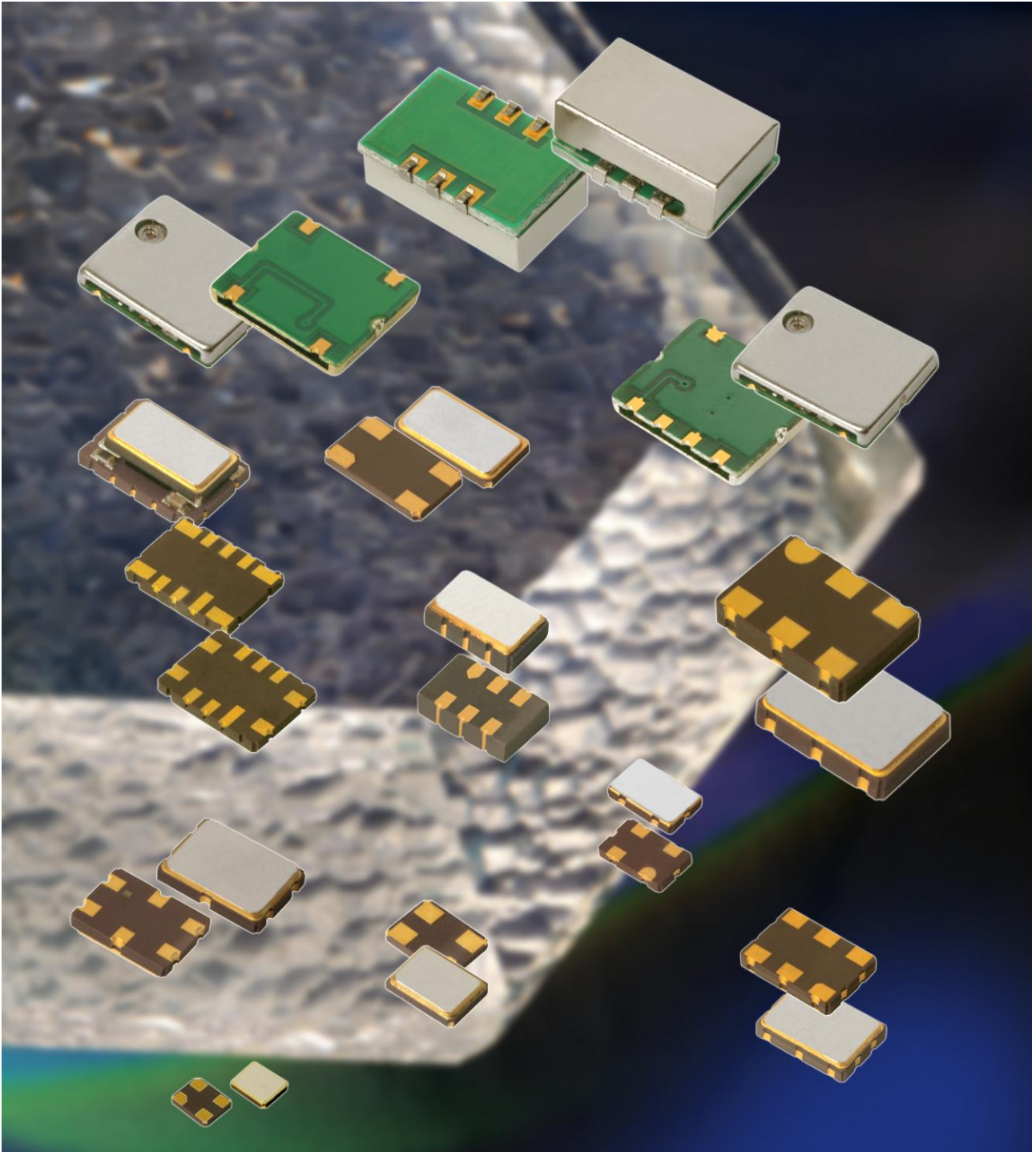
QuartzCom
the communications company

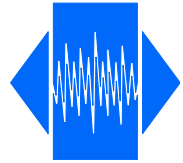


SPXO

MORE THAN FREQUENCY

Single Packaged Crystal Oscillators




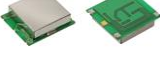


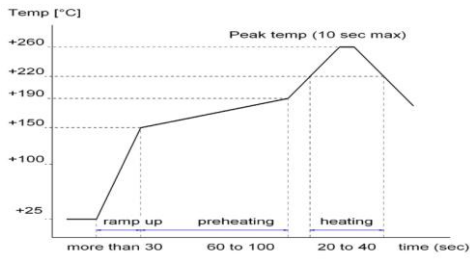


Surface-Mounted Type

| Type | Package Size | Frequency Range | Supply Voltage | Output Signal | Package Type |
|---|--------------|---|--------------------------------------|---------------|--------------|
| | [mm] | [MHz] | [V] | | |
| MCO-7S <i>New</i> | 2.0 x 1.6 | 1 MHz to 80 MHz | 1.8 V, 2.5 V & 3.3 V | CMOS | |
| MCO-6S | 2.5 x 2.0 | 1 MHz to 80 MHz | 1.8 V, 2.5 V & 3.3 V | CMOS | |
| MCO-5S <i>New</i> | 3.2 x 2.5 | 32.768 kHz to <i>170 MHz</i> | 1.8 V, 2.5 V & 3.3 V | HCMOS / TTL | |
| MCO-3S | 5.0 x 3.2 | 32.768 kHz to 125 MHz 12 kHz to 75 MHz | 1.8 V, 2.5 V & 3.3 V 5.0 V | HCMOS / TTL | |
| MCO-3S-PE-6p | 5.0 x 3.2 | 20 MHz to 250 MHz | 2.5 V 3.3 V | LVPECL | |
| MCO-3S-DS-6p | 5.0 x 3.2 | 20 MHz to 250 MHz | 2.5 V 3.3 V | LVDS | |
| MCO-2S | 6.0 x 3.5 | 2.0 MHz to 125 MHz | 3.3 V 5.0 V | HCMOS / TTL | |
| MCO-1S | 7.0 x 5.0 | 12 kHz to 200 MHz | 1.8 V, 2.5 V, 2.8 V 3.3 V & 5.0 V | HCMOS / TTL | |
| MCO -1S-CSS low EMI, spread spectrum | 7.0 x 5.0 | 8 MHz to 170 MHz | 3.3 V | CMOS | |
| MCO-1S-PE-6p | 7.0 x 5.0 | 20 MHz to 250 MHz | 1.8 V, 2.5 V, 2.8 V 3.3 V & 5.0 V | LVPECL | |
| MCO-1S-PEM-6p multiplier | 7.0 x 5.0 | 100 MHz to 700 MHz | 3.3 V | LVPECL | |
| MCO-1S-DS-6p | 7.0 x 5.0 | 20 MHz to 250 MHz | 1.8 V, 2.5 V, 2.8 V 3.3 V & 5.0 V | LVDS | |
| MCO-1S-DSM-6p multiplier | 7.0 x 5.0 | 100 MHz to 700 MHz | 3.3 V | LVDS | |
| PXO-P9-H-4p | 14.0 x 9.0 | 20 MHz to 200 MHz | 2.5 V, 3.3 V & 5.0 V | HCMOS | |
| PXO-P9-PE-6p | 14.0 x 9.0 | 20 MHz to 250 MHz | 1.8 V, 2.5 V, 2.8 V 3.3 V | LVPECL | |
| PXO-P9-PEM-6p multiplier | 14.0 x 9.0 | 100 MHz to 700 MHz | 3.3 V | LVPECL | |
| PXO-P9-DS-6p | 14.0 x 9.0 | 20 MHz to 250 MHz | 1.8 V, 2.5 V, 2.8 V 3.3 V | LVDS | |
| PXO-P9-DSM-6p multiplier | 14.0 x 9.0 | 100 MHz to 700 MHz | 3.3 V | LVDS | |


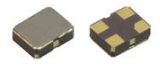
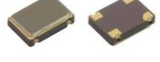
Surface-Mounted Type

| Type | Package Size | Frequency Range | Supply Voltage | Output Signal | Package Type |
|--|--|--------------------|----------------|----------------|---|
| | [mm] | [MHz] | [V] | | |
| PXO-SM-4J | 14.0 x 9.8 plastic moulded with J-lead | 1.5 MHz to 70 MHz | 3.3 V 5.0 V | HCMOS / TTL |  |
| PXO-SMP-4J <i>programmable</i> | 14.0 x 9.8 plastic moulded with J-lead | 1.5 MHz to 70 MHz | 3.3 V 5.0 V | HCMOS / TTL |  |
| PXO-SK-H-4p | 20.0 x 12.5 | 2 MHz to 150 MHz | 3.3 V 5.0 V | HCMOS / TTL |  |
| PXO-SW-H-5p | 21.3 x 18.1 | 100 MHz to 400 MHz | 3.3 V 5.0 V | sine wave 0 dB |  |

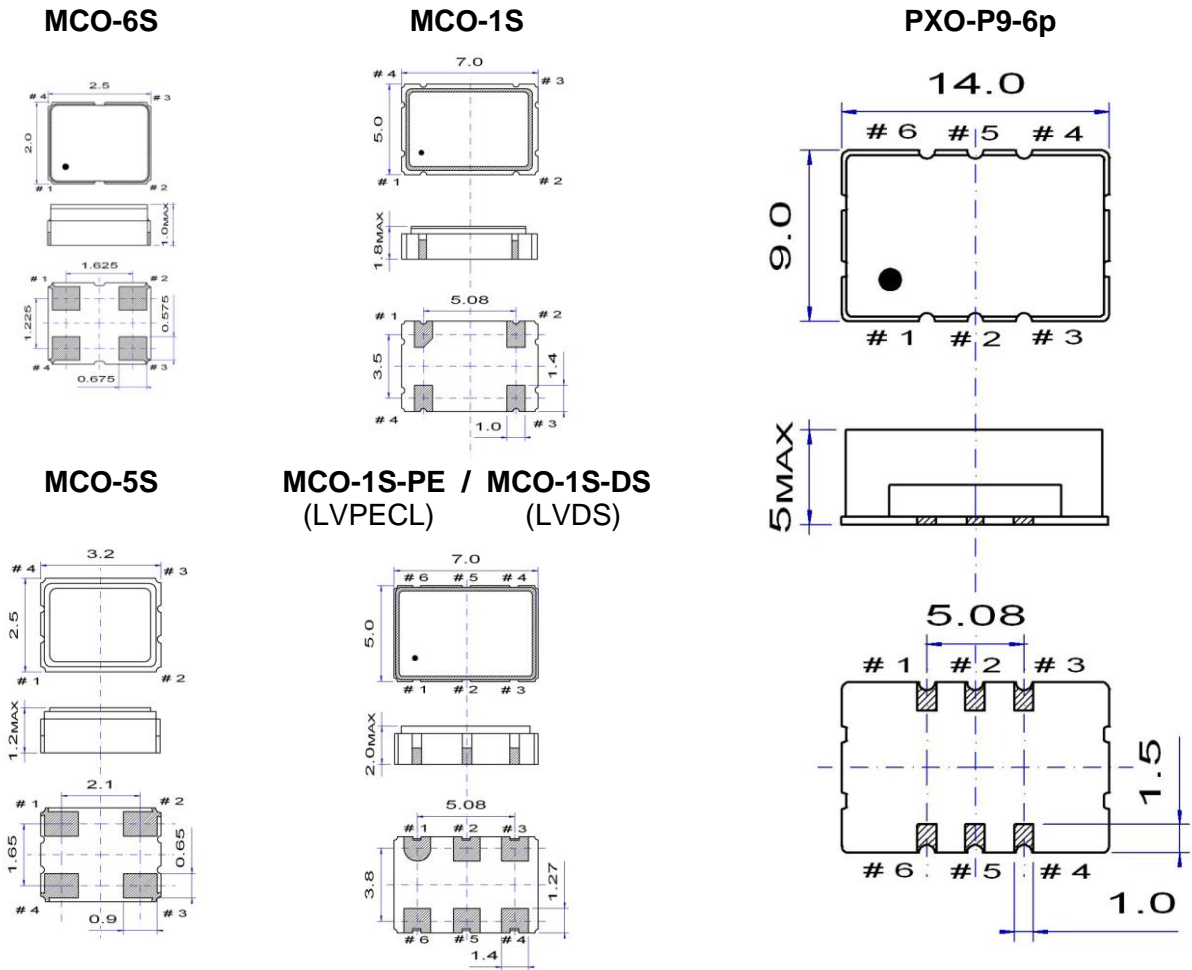
| Parameters | | Example for IR reflow soldering temperature |
|--|---|--|
| all inclusive stability, tolerance, ageing, supply & load change | ±25 ppm to ±50 ppm (tighter accuracy on request) |  |
| jitter (rms) | 0.5 ps at 12 kHz ~ 20 MHz from carrier | |
| operating temperature range | -20 ~ +70 °C commercial application -40 ~ +85 °C industrial application -55 ~ +125 °C on request | |
| storage temperature range | -55 ~ +125 °C | |
| packing SMD type | tape & reel: 500, 1k or 2k pieces | |
| packing through hole type | 25 pcs per tube or 50 pcs per tray | |

SPXO-P

Single Packaged Crystal Oscillator Programmable

| Type | Package Size | Frequency Range | Supply Voltage | Output Signal | Package Type |
|-----------------|--------------|------------------|----------------|---------------|---|
| | [mm] | [MHz] | [V] | | |
| MCO-6S-P | 2.5 x 2.0 | 1 MHz to 133 MHz | 1.8 V | CMOS |  |
| | | 1 MHz to 166 MHz | 2.5 V | | |
| | | 1 MHz to 200 MHz | 3.3 V | | |
| MCO-5S-P | 3.2 x 2.5 | 1 MHz to 133 MHz | 1.8 V | CMOS |  |
| | | 1 MHz to 166 MHz | 2.5 V | | |
| | | 1 MHz to 200 MHz | 3.3 V | | |
| MCO-1S-P | 7.0 x 5.0 | 6 MHz to 100 MHz | 3.3 V | CMOS / TTL |  |
| | | 6 MHz to 160 MHz | 5.0 V | | |

Surface-Mounted Package



| Required specification for quotation request | | Units | Example |
|---|-----------------------------|--------------------|-----------------|
| Type | | | MCO-1S-DS-25-6p |
| nominal frequency | | MHz | 125.000 MHz |
| frequency stability (all inclusive): stability vs. temperature, tolerance @ +25 °C, aging, supply & load variation | | ppm | ±25 ppm |
| operating temperature range | | °C | -30 to +85 °C |
| supply voltage | | V | 2.5 V |
| output signal | HCMOS / TTL, LVPECL, LVDS | | LVDS |
| output load | HCMOS / TTL | 15 pF | |
| | LVPECL | 50 Ω @ Vdc - 2.0 V | |
| | LVDS | 100 Ω | 100 Ω |
| special output load on request | | | |
| enable / disable function | [yes or no] | | Pin # 1 |
| jitter (rms or period jitter) | (specify only if important) | ps | < 3 ps |
| phase noise | (specify only if important) | dBc/Hz | |