

M6064 & M6065 Series

2.0 x 2.5 mm, 3.0 V, Clipped Sine Wave, TCXO/VCTCXO

Features:

- Ultra Miniature Package
- Tight Stability Performance
 - Down to ± 0.5 ppm
- Standard 6 Pad Configuration

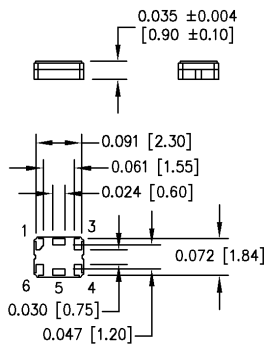
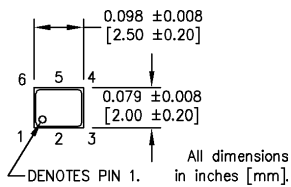
Applications:

- Telecommunications such as SONET / SDH / DWDM / FEC / SERDES / OC-3 thru OC-192
- Wireless base stations / WLAN / Gigabit Ethernet
- Avionic flight controls and military communications

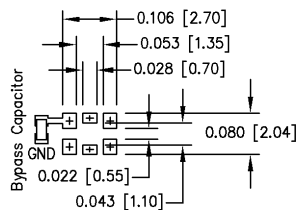
Ordering Information

| | | | | | | |
|---------------------------------------|---------------------|------------------|---|---|---|-------------|
| | M6064 | 1 | J | S | N | 00.0000 MHz |
| Product Series | | | | | | |
| M6064 = TCXO | | | | | | |
| M6065 = VCTCXO | | | | | | |
| Temperature Range | | | | | | |
| 1: 0 °C to +70 °C | H: -30 °C to +85 °C | | | | | |
| 2: -40 °C to +85 °C | | | | | | |
| Stability | | | | | | |
| H: ± 2.5 ppm | J: ± 1.0 ppm | G: ± 0.5 ppm | | | | |
| Output Waveform | | | | | | |
| S: Clipped Sine Wave | | | | | | |
| Package/Lead Configurations | | | | | | |
| N: 6 Pad Leadless Ceramic | | | | | | |
| Frequency (customer specified) | | | | | | |

M6064Sxxx & M6065Sxxx - Custom datasheets.



SUGGESTED SOLDER PAD LAYOUT



Pin Connections

| Pin | Function |
|-----|--------------------|
| 1 | Ground or V_{CT} |
| 2 | N/C |
| 3 | Ground |
| 4 | Output |
| 5 | N/C |
| 6 | + V_{DD} |

| Parameter | Symbol | Min | Typ | Max | Units | Conditions |
|-----------------------------|--|--|------|----------|-------------|---|
| Frequency Range | F_R | 10.0 | | 52.0 | MHz | |
| Frequency Tolerance | $\Delta F/F$ | -1.0 | | +1.0 | ppm | @ +25 °C, initial |
| | | -1.5 | | +1.5 | ppm | @ +25 °C, after two reflow soldering profiles |
| Frequency Stability | $\Delta F_T/F$ | (See Ordering Information) | | | ppm | Over Operating Temperature |
| Frequency vs Supply Voltage | $\Delta F_{VDD}/F$ | -0.2 | | +0.2 | ppm | For $\pm 10\%$ voltage change |
| Frequency vs Load | $\Delta F_{LOAD}/F$ | -0.2 | | +0.2 | ppm | For $\pm 10\%$ load change |
| Aging | | -1.0 | | +1.0 | ppm | per year @ +40 °C |
| Operating Temperature | (See Ordering Information) | | | | | |
| Input Voltage | V_{DD} | 2.85 | 3 | 3.15 | V | |
| Input Current | I_{DD} | | | 2 | mA | |
| Output Type | Clipped Sine Wave | | | | | |
| Output Load | 10 k Ω 10 pF | | | | | |
| Output Level | | 0.8 | | | V_{pk-pk} | |
| Control Voltage | V_{CT} | 0.5 | 1.5 | 2.5 | V | M6065 only. |
| Frequency Tuning | | ± 5 | | ± 12 | ppm | M6065 only. $V_{CT} = +1.5$ V |
| Phase Noise (Typical) | | | -85 | | dBc/Hz | @ 10 Hz |
| | | | -110 | | dBc/Hz | @ 100 Hz |
| | | | -135 | | dBc/Hz | @ 1 kHz |
| | | | -150 | | dBc/Hz | @ 10 kHz |
| Environmental | Mechanical Shock | Per MIL-STD-202, Method 213 (2000 g, 0.3 ms duration, 1/2 sine wave) | | | | |
| | Vibration | Per MIL-STD-202, Method 201 & 204 (10 g from 20 Hz to 2000 Hz) | | | | |
| | Hermeticity | Per MIL-STD-202, Method 112 (1×10^{-8} atm.cc/s of helium) (Crystal unit only) | | | | |
| | Storage Temperature | -55 °C to +105 °C | | | | |
| | Solderability | Per EIAJ-STD-002 | | | | |
| | Max Soldering Conditions | See Solder Profile, Figure 1 | | | | |
| Package | 6-pad 2.0 X 2.5 X 0.9 mm leadless ceramic. RoHS compliant. | | | | | |

MtronPTI Lead Free Solder Profile

