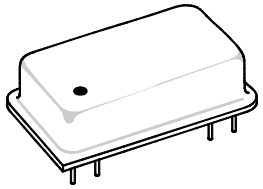
# Preliminary

# HO4006

# 640.0 MHz SAW Oscillator

- ***SAW Frequency Stabilization***
- ***Fundamental-Mode Oscillation at 640.0 MHz***
- ***A Rugged, Compact General-Purpose Oscillator***

The frequency of this oscillator is stabilized by surface-acoustic-wave (SAW) technology. This results in excellent performance from a compact, rugged, oscillator operating at the fundamental frequency of 640.0 MHz. The highly-reliable HO4006 makes it suitable for general purpose use in a wide variety of applications



**Dip 16-8 Case**

## Electrical Characteristics

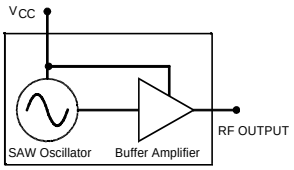
| Characteristic | | Sym | Notes | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|---|---|---|
| Operating Frequency | Absolute Frequency | $f_O$ | 1, 7 | | 640.0 | | MHz |
| | Tune Range | | | 639.900 | | 640.100 | MHz |
| | Tune Voltage | | | 0 | | +5 | VDC |
| | Tuning Linearity | | | | 2:1 | 3:1 | |
| RF Output Power | | $P_O$ | 3, 6 | +7 | +10 | | dBm |
| Discrete Spurious | Second Harmonics | | 2, 3, 4 | | | -15 | dBc |
| | Third and Higher Harmonics | | | | | -20 | |
| | Nonharmonic | | | | -80 | | |
| SSB Phase Noise | 1 kHz Offset | | 2, 3, 4 | | -115 | -105 | dBc/Hz |
| | 10 kHz Offset | | | | -135 | -130 | |
| | 100kHz Offset | | | | -160 | | |
| RF Impedance | Nominal Impedance | $Z_O$ | 3 | | 50 | | Ω |
| | Operating Load VSWR | $G_L$ | 3, 5 | | | 2:1 | |
| DC Power Supply | Operating Voltage | $V_{CC}$ | 3, 6 | 4.75 | 5.0 | 5.25 | VDC |
| | Operating Current | $I_{CC}$ | | | 35 | 45 | mA |
| Operating Ambient Temperature | | $T_A$ | 3, 6 | -20 | | +70 | °C |
| Lid Symbolization (YY=Year, WW=Week) | | RFM HO4006 YYWW | | | | | |

**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. COCOM CAUTION: Approval by the U.S. Department of Commerce is required prior to export of this device.**

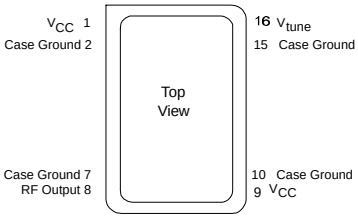
***Notes:***

1. One or more of the following United States patents apply:
2. Unless noted otherwise, all specifications are listed at $T_A$ = +25°C ±2°C, $V_{CC}$ = nominal voltage ±0.01 VDC, and load impedance = 50 Ω with VSWR ≤ 1.5:1.
3. The design, manufacturing process , and specification of this device are subject to change without notice.
4. Applies to oscillator only and not to sidebands caused by external electrical or mechanical sources. (Dedicated external voltage regulation with low-frequency filtering for the DC power supply and proper circuit board layout are recommended for optimum spectral purity.)
5. For specified maximum operating load VSWR (any angle) at $F_O$. (No instablity or damage will occur for any passive load impedance.)
6. For any combination of $V_{CC}$ and $T_A$ within the specified operating ranges.
7. Applies for any combination of Note 5 and 6 conditions.

### BLOCK DIAGRAM




### ELECTRICAL CONNECTIONS

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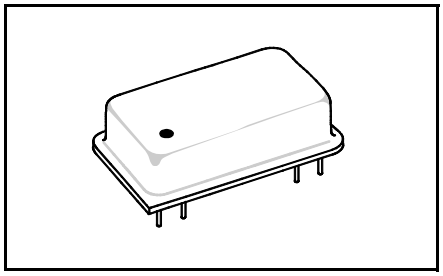
## DIP16-8

Metal Dual-Inline Package with 8 leads in a 16-lead DIP configuration



| Dimension | mm | | Inches | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | — | 25.02 | — | 0.985 |
| B | — | 12.83 | — | 0.505 |
| C | — | 6.35 | — | 0.250 |
| D | 0.40 | 0.51 | 0.016 | 0.020 |
| E | 0.64 Nominal | | 0.025 Nominal | |
| F | 7.62 Nominal | | 0.300 Nominal | |
| G | 2.54 Nominal | | 0.100 Nominal | |
| H | 17.78 Nominal | | 0.700 Nominal | |
| K | 3,39 | 6.73 | 0.130 | 0.265 |
| L | 1.30 | — | 0.051 | — |
| M | — | 11.18 | — | 0.440 |
| N | — | 22.60 | — | 0.890 |
| R | 1.75 | 2.26 | 0.069 | 0.089 |