

Preliminary

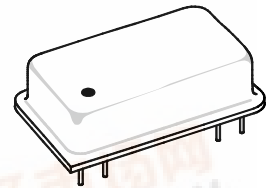


- **SAW Frequency Stabilization**
- **Fundamental-Mode Oscillation at 400.0 MHz**
- **A Rugged, Compact General-Purpose Oscillator**

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 400.0 MHz. The high-reliability of the HO4002-1 makes it suitable for general purpose use in a wide variety of applications.

HO4002-1

**400.0 MHz
SAW
Oscillator**



Dip 16-8 Case

Absolute Maximum Ratings

Rating		Value	Units
DC Supply Voltage		0 to +13	VDC
Case Temperature	Powered	-40 to +70	°C
	Storage	-40 to +85	

Electrical Characteristics

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Operating Frequency	Absolute Frequency	f_o	1, 7		400.00		MHz
	Tune Range			399.960		400.040	MHz
	Tune Voltage			0		+10	VDC
	Tuning Linearity				3:1	4:1	
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				-100	-95	dBc/Hz
	10 kHz Offset				-130	-125	
	100 kHz Offset				-150		
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	10.8	12	13.2	VDC
	Operating Current	I_{CC}				45	mA
Operating Case Temperature		T_C	3, 6	-20		+70	°C
Lid Symbolization (YY=Year, WW=Week)				RFM HO4002-1 YYWW			

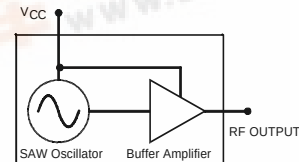


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. COCOM CAUTION: Approval by the U.S. Department of Commerce is required prior to export of this device.

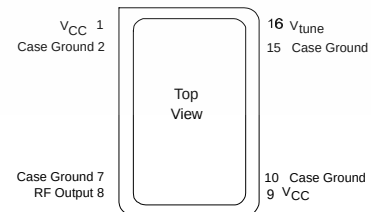
Notes:

- One or more of the following United States patents apply: 4,616,197; 4,610,681; and 4,761,616.
 - Unless noted otherwise, all specifications are listed at $T_C = +25^\circ\text{C} \pm 2^\circ\text{C}$, $V_{CC} = \text{nominal voltage} \pm 0.01 \text{ VDC}$, and load impedance = 50Ω with $\text{VSWR} \leq 1.5:1$.
 - The design, manufacturing process, and specification of this device are subject to change without notice.
 - 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.)
 - For specified maximum operating load VSWR (any angle) at F_o . (No instability or damage will occur for any passive load impedance.)
- For any combination of V_{CC} and T_C within the specified operating ranges.
Applies for any combination of Note 5 and 6 conditions.

BLOCK DIAGRAM



ELECTRICAL CONNECTIONS

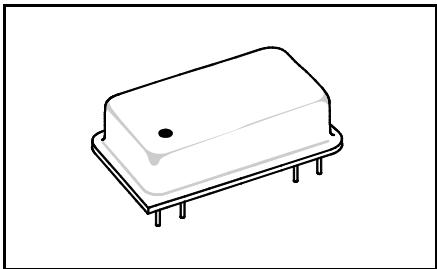


400.0 MHz

SAW Oscillator

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

