Preliminary

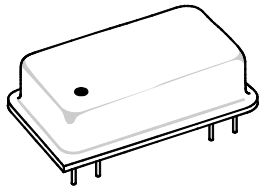
RFM®

HO4002-1

400.0 MHz SAW Oscillator

- ***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.



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

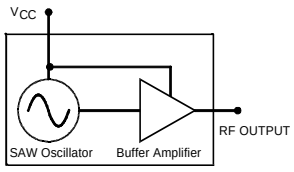
Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Operating Frequency	AbsoluteFrequency	f_O	1, 7		400.00		MHz
	Tune Range			399.960		400.040	MHz
	Tune Voltage			0		+10	VDC
	Tuning Linearity				3:1	4:1	
RF Output Power		P_O	3, 6	+7	+10		dBm
Discrete Spurious	Second Harmonics		2, 3, 4			-15	dBc
	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.

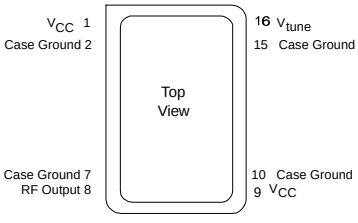
Notes:

1. One or more of the following United States patents apply: 4,616,197; 4,610,681; and 4,761,616.
2. Unless noted otherwise, all specifications are listed at T_C = +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 instability or damage will occur for any passive load impedance.)
6. For any combination of V_{CC} and T_C within the specified operating ranges.
7. Applies for any combination of Note 5 and 6 conditions.

BLOCK DIAGRAM

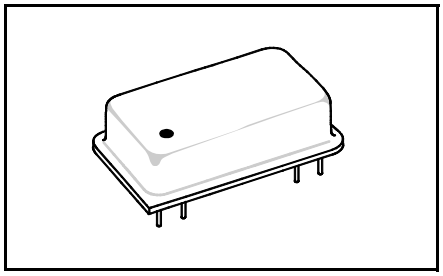


ELECTRICAL CONNECTIONS



RF Monolithics, Inc. Phone: (972) 233-2903 Fax: (972) 387-8148
RFM Europe Phone: 44 1963 251383 Fax: 44 1963 251510
E-mail: info@rfm.com
http://www.rfm.com

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