



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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- **SAW Frequency Stabilization**
- **Fundamental-Mode Oscillation at 400.0 MHz**
- **A Rugged, Compact General-Purpose Oscillator**
- **Complies with Directive 2002/95/EC (RoHS)**

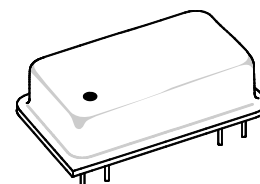
The frequency of this oscillator is stabilized by surface-acoustic-wave (SAW) technology. This results in excellent performance from a compact, rugged, oscillator operating at the fundamental frequency of 400.0 MHz. The high-reliability of the HO4002-1 makes it suitable for general purpose use in a wide variety of applications.

#### Absolute Maximum Ratings

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

**HO4002-1**

**400.0 MHz  
SAW Oscillator**



**Dip 16-8 Case**

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		$\Omega$
	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					

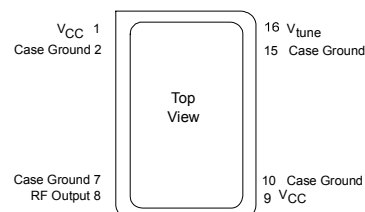
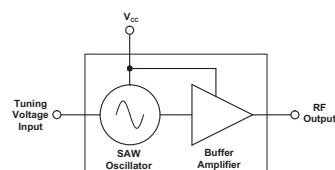


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. COCOM CAUTION: Approval by the U.S. Department of Commerce is required prior to export of this device.**

#### 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 =  $50 \Omega$  with  $V_{SWR} \leq 1.5:1$ .
- 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.

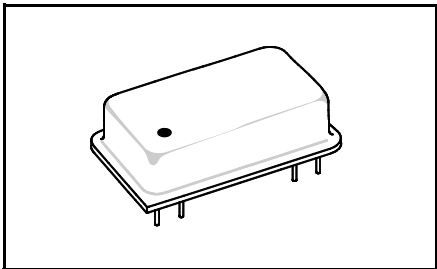
#### BLOCK DIAGRAM



#### ELECTRICAL CONNECTIONS

DIP16-8

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



Dimension n	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

