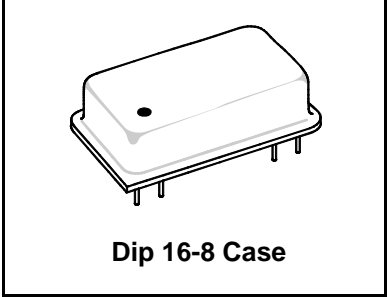




HO1091

1090 MHz SAW Oscillator



- SAW Frequency Stabilized
- Fundamental-mode Oscillation at 1090 MHz
- Ideal for ATC Transponder Applications
- Complies with Directive 2002/95/EC (RoHS)



The frequency of this oscillator is stabilized by UHF surface-acoustic-wave (SAW) technology, providing excellent performance in a compact, rugged oscillator operating at the fundamental frequency of 1090 MHz. The highly-reliable HO1091 is designed for use in Air Traffic Control Transponders.

Absolute Maximum Ratings

Rating		Value	Units
DC Supply Voltage		0 to +13	VDC
Ambient Temperature	Powered	-40 to +85	°C
	Storage	-55 to +125	

Electrical Characteristics

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Operating Frequency	Absolute Frequency	f_O	1, 7	1089.2	1090.0	1090.8	MHz
	Tolerance from 1090.0 MHz	Δf_O				± 800	kHz
RF Output Power		P_O	3, 6	+10	+12	+13	dBm
Discrete Spurious	Second Harmonics		2, 3, 4		-25	-20	dBc
	Third and Higher Harmonics				-35	-30	
	Nonharmonic				< -100	-80	
SSB Phase Noise	1 kHz Offset		2, 3, 4			-85	dBc/Hz
	10 kHz Offset					-110	
RF Impedance	Nominal Impedance	Z_O	3		50		Ω
	Operating Load VSWR	G_L	3, 5			1.5:1	
DC Power Supply	Operating Voltage	V_{CC}	3, 6	11.75	12.00	12.25	VDC
	Operating Current	I_{CC}				37	40
Operating Ambient Temperature		T_A	3, 6	-40		+85	°C
Lid Symbolization (YY=Year, WW=Week)	RFM HO1091 YYWW						

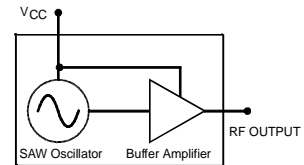


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. COCOM CAUTION: Approval by the U.S. Department of Commerce is required prior to export of this device.

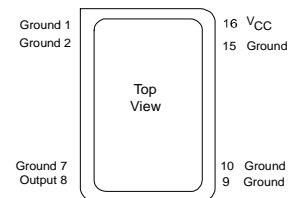
Notes:

- One or more of the following United States patents apply: 4,760,352; 5,787,117; and 7,260,375.
- Unless noted otherwise, all specifications are listed at $T_A = +25^\circ\text{C} \pm 2^\circ\text{C}$, $V_{CC} =$ nominal voltage ± 0.01 VDC, and load impedance = 50Ω with $VSWR \leq 1.5:1$.
- The design, manufacturing process, and specifications 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_A within the specified operating ranges.
- Applies for any combination of Note 5 and 6 conditions.

BLOCK DIAGRAM

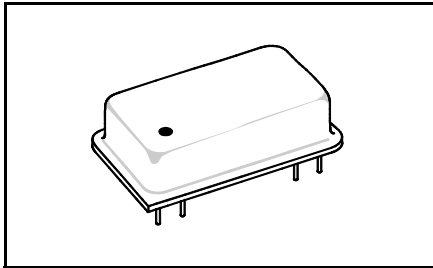


ELECTRICAL CONNECTIONS



DIP16-8

Metal Dual-inline Package with 8 Leads in a 16-lead DIP Configuration



Dimension	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

