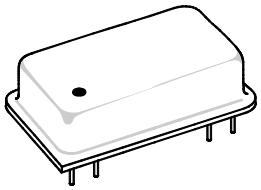
HO1045

915.0 MHz SAW Oscillator

- ***SAW Frequency Stabilization***
- ***Fundamental-Mode Oscillation at 915.0 MHz***
- ***0.8" x 0.5" x 0.25" Metal Dip Case***

This 915.0 MHz surface-acoustic-wave (SAW) oscillator is designed for Industrial, Scientific, and Medical (ISM) applications and as the local oscillator in FCC Part 15.247 radios. Fundamental oscillation at 915.0 MHz eliminates all internally generated spurious outputs except integral harmonics of 915.0 MHz. The compact size of the rugged, metal, hermetically-sealed case makes this oscillator suitable for a variety of applications.



Dip 14-8 Case

Absolute Maximum Ratings

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

Electrical Characteristics

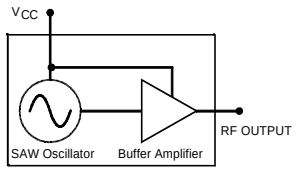
Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Operating Frequency	Frequency at +25°C and 12.0 VDC	f_O	1, 2	914.750	915	915.250	MHz
	Tolerance from 915.0 MHz at 25°C	Δf_O				±250	kHz
	Overall Frequency		1, 7	914.550		915.300	
RF Output Power		P_O	2, 3	+7			dBm
Spurious Outputs	Second Harmonics		2, 3, 4		-20	-15	dBc
	Third and Higher Harmonics				-35	-20	
	Nonharmonic				<-80	-60	
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	11.6	12	12.4	VDC
	Operating Current	I_{CC}			30	40	mA
Operating Ambient Temperature		T_A	3, 6	-20		+70	°C
Lid Symbolization (YY=Year, WW=Week)		RFMHO1045 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.

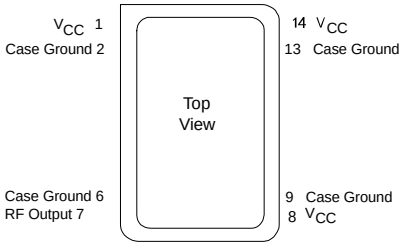
Notes:

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_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 specifications 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_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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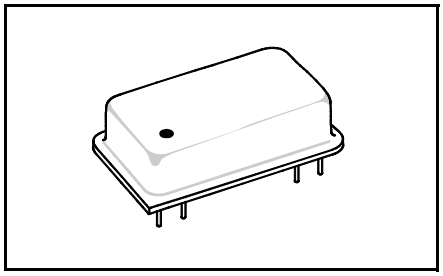
DIP14-8 Metal Dual-Inline Package with 8 leads in a 14-lead DIP configuration



Dimension	mm		Inches	
	MIN	MAX	MIN	MAX
A	—	20.45	—	0.805
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	15.24 Nominal		0.600 Nominal	
K	5.97	6.73	0.235	0.265
L	1.30	—	0.051	—
M	—	11.18	—	0.440
N	—	18.80	—	0.740
R	1.75	2.26	0.069	0.089