

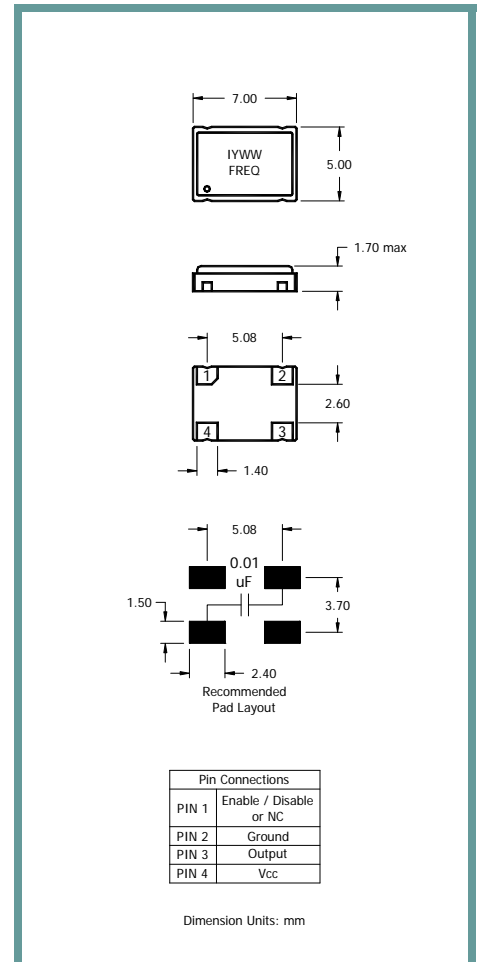
5.0 mm x 7.0 mm Ceramic Package SMD Oscillator

ISM81 Series

Product Features:

- Wide Temperature Range (-55° to +125°C)
- Frequency Stability option ± 50 ppm over the full operating temperature range.
- Low Phase Noise
- RoHS Compliant

Frequency	1.000 MHz to 125.000 MHz
Output Level CMOS	Logic '0' = 10% of Vcc max Logic '1' = 90% of Vcc min
Duty Cycle	Specify 50% $\pm 10\%$ or $\pm 5\%$ See Table in Part Number Guide
Rise / Fall Time	5 nS Max. for 10% to 90% of waveform
Output Load	15 pF
Frequency Stability	See Frequency Stability Table (Includes room temperature tolerance and stability over operating temperature)
Aging (Initial First Year)	± 3 ppm max
Start-up Time	5 mS Max.
Supply Voltage	See Input Voltage Table, tolerance $\pm 5\%$
Current	50 mA Max.
Operating	-55° C to +125° C
Storage	-55° C to +125° C
Phase Jitter: (12kHz - 20MHz)	1 pS RMS max
Tri-State (Pin 1) Function Enable / Disable Time Current, Standby Mode	Standby 100 nS Max. N.C. or $\geq 70\%$ Vcc = Enable. $\leq 30\%$ Vcc = Disable 20 μ A



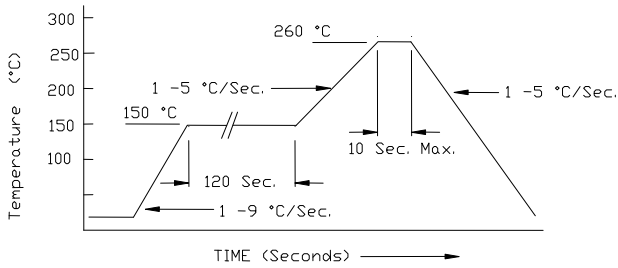
Part Number Guide		Sample Part Number:			ISM81-3756BH-20.000		
Package	Input Voltage	Operating Temperature	Symmetry (Duty Cycle)	Output	Stability (in ppm)	Enable / Disable	Frequency
ISM81	1 = 1.8 V	7 = -55°C to +125°C	5 = 45 / 55 max	3 = 15pF	B = ± 50 ppm	H = Enable	20.000
	2 = 2.7 V		6 = 40 / 60 max	6 = 30pF *	C = ± 100 ppm	O = N/C	
	3 = 3.3 V						
	6 = 2.5 V						
	7 = 3.0 V						

*Oscillator may not meet 5% symmetry over temperature range with 30 pF load.

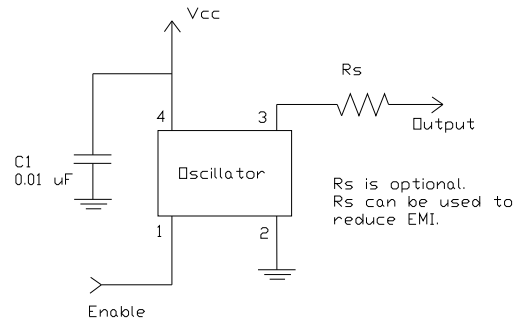
NOTE: A 0.01 μ F bypass capacitor is recommended between Vcc (pin 4) and GND (pin 2) to minimize power supply noise.

Pb Free Solder Reflow Profile:

Typical Application:



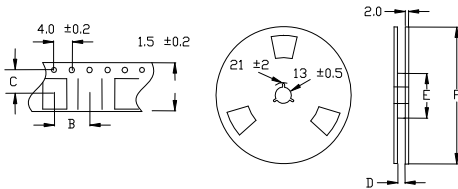
*Units are backward compatible with 240° C reflow processes



Package Information:

MSL = N.A. (Package does not contain plastic; storage life is unlimited under normal room conditions.)
Termination = e4 (Au over Ni over W base metallization).

Tape and Reel Information:



Quantity per Reel	1000
A	16 +/- .3
B	8 +/- .2
C	7.5 +/- .2
D	17.5 +/- .1
E	50 / 60 / 80
F	180 / 250

Environmental Specifications:

Thermal Shock	MIL-STD-883, Method 1011, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Mechanical Vibration	MIL-STD-883, Method 2007, Condition A
Resistance to Soldering Heat	J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max)
Hazardous Substance	Pb-Free / RoHS / Green Compliant
Solderability	JESD22-B102-D Method 2 (Preconditioning E)
Terminal Strength	MIL-STD-883, Method 2004, Test Condition D
Gross Leak	MIL-STD-883, Method 1014, Condition C
Fine Leak	MIL-STD-883, Method 1014, Condition A2, R1=2x10 ⁻⁸ atm cc/s
Solvent Resistance	MIL-STD-202, Method 215

Marking:

Line 1: ILSI and Date Code (YWW)
Line 2: Frequency

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