

3.2 mm x 5.0 mm Ceramic Package SMD Oscillator



Product Features:

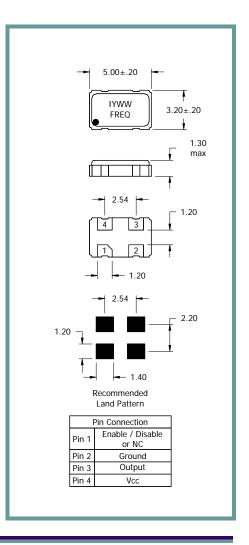
Wide Temperature Range (-55° to +125°C)

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



Part Number Guide		Sample Part Number:		ISM82-3756BH-20.000			
Package	Input Voltage	Operating Temperature	Symmetry (Duty Cycle)	Output	Stability (in ppm)	Enable / Disable	Frequency
ISM82	1 = 1 .8 V	7 = -55°c to +125°c	5 = 45 / 55 max	3 = 15pF	B = ±50 ppm	H = Enable	
	2 = 2.7 V		6 = 40 / 60 max	6 = 30pF *	C= ±100 ppm	O = N/C	
	3 = 3.3 V						20.000
	6 = 2.5 V						20.000
	7 = 3.0 V						
					<u> </u>		

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

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

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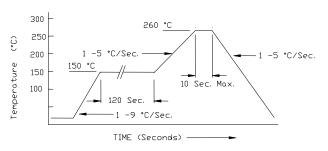


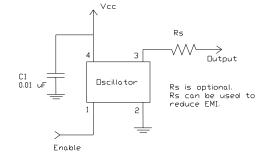
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Pb Free Solder Reflow Profile:

Typical Application:

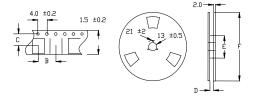




Package Information:

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	
Α	16 +/3	
В	8 +/2	
С	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
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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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^{*}Units are backward compatible with 240° C reflow processes