![ILSI logo]

**3.2 mm x 5.0 mm Ceramic Package SMD Oscillator,
LVCMOS / LVPECL / LVDS**

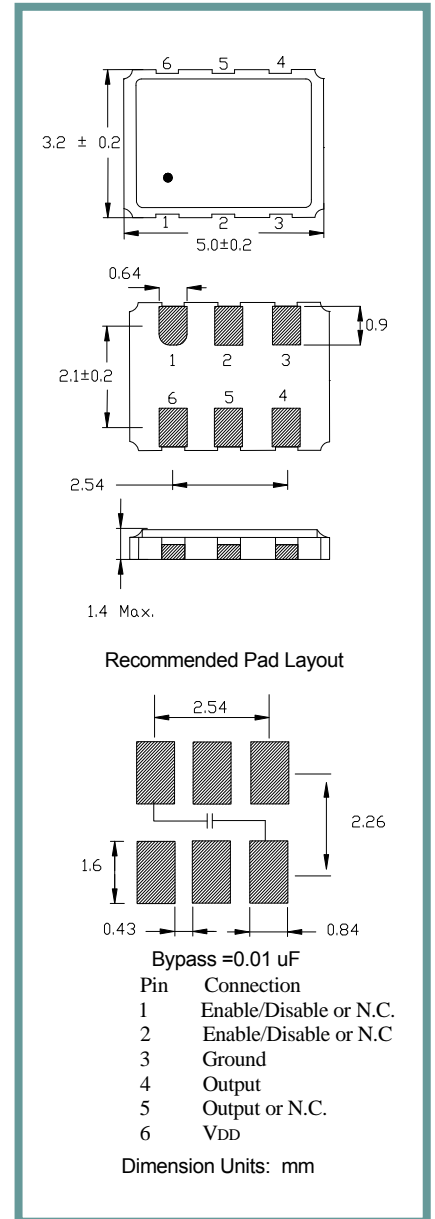Pb Free
RoHS

ISM64 Series

Product Features
Small Surface Mount Package
Fast Sample Delivery
Frequencies to 1500 MHz
Pb Free/ RoHS Compliant
Leadfree Processing

Applications
xDSL	Ethernet/LAN/WAN
Broadcast video	Optical modules
Wireless Base Stations	Clock and data recovery
Sonet /SDH	FPGA/ASIC
WiMAX/WLAN	Backplanes
Server and Storage	GPON

|	
Frequency LVCMOS LVPECL LVDS	10 MHz to 250 MHz 10 MHz to 1500 MHz 10 MHz to 1500 MHz
Output Level LVCMOS LVPECL LVDS	VOH=90% VDD min., VOL=10 % VDD max. VOH=VDD-1.03V max. (Nom. Load), VOL=VDD-1.6V max. (Nom. Load) VOD=(Diff. Output) 350mV Typ.
Duty Cycle LVCMOS LVPECL LVDS	50% ±5% @ 50%VDD 50% ±5% @ 50%* 50% ±5% @ 50%*
Rise / Fall Time LVCMOS LVPECL LVDS	3.0 ns max. (90%/10%)* 0.6 ns max. (80%/20%)* 0.6 ns max. (80%/20%)*
Output Load LVCMOS LVPECL LVDS	15pF 50 Ω to VDD - 2.0 VDC RL=100 Ω/CL=10pF
Frequency Stability	See Table Below
Supply Voltage	3.3 VDC ± 10%, 2.5VDC ± 5%
Current	LVCMOS = 45 mA max., LVPECL = 65 mA max. LVDS = 35 mA max.
Phase Jitter (RMS) **At 12kHz to 20 MHz**	0.9 ps typical
Operating Temp. Range	See Table Below
Storage	-40° C to +100° C

3.2 ± 0.2
5.0±0.2
0.64
0.9
2.1±0.2
2.54
1.4 Max.

Recommended Pad Layout

2.54
2.26
1.6
0.43
0.84

Bypass =0.01 uF

Pin	Connection
1	Enable/Disable or N.C.
2	Enable/Disable or N.C
3	Ground
4	Output
5	Output or N.C.
6	VDD

Dimension Units: mm

Part Number Guide				**Sample Part Number:**	**ISM64–31A9H2–155.520**		
Package	Input Voltage	Operating Temperature	Stability (in ppm)	Output	Enable / Disable	Complimentary Ouput (Pin 5) **	Frequency
ISM64	3 = 3.3V	1 = 0° C to +70° C	F = ±20	3 = LVCMOS	H = Enable (Pin 1)	1 = N.C.	-155.520 MHz
	6 = 2.5V	3 = -20° C to +70° C	A = ±25	8 = LVDS	K = Enable (Pin 2)	2 = Output	
		2 = -40° C to +85° C	B = ±50	9 = LVPECL			

NOTE: A 0.01 µF bypass capacitor is recommended between V_DD (pin 6) and GND (pin 3) to minimize power supply noise. * Measured as percent of waveform. ** Available on LVDS and LVPECL ouput only.

Typical Application:
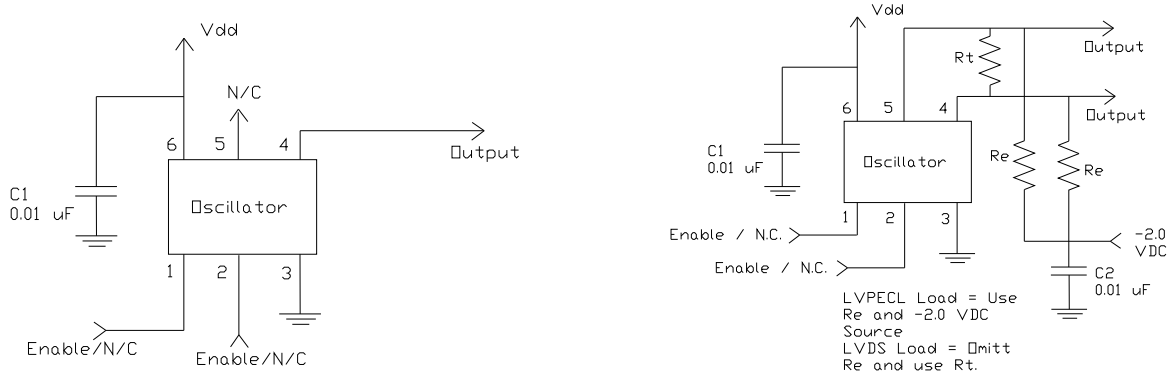
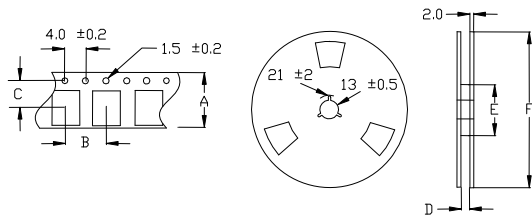
Pb Free Solder Reflow Profile:
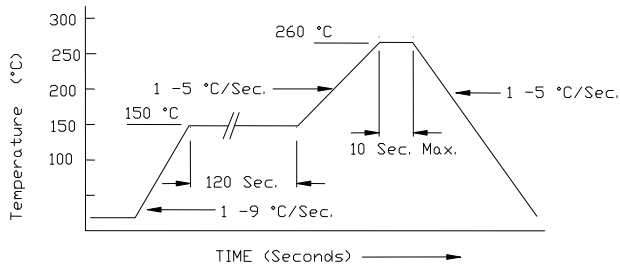
*Units are backward compatible with 240C reflow processes

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