



5 mm x 7 mm Ceramic Package SMD Oscillator,
LVCMOS / LVPECL / LVDS



ISM63 - Series

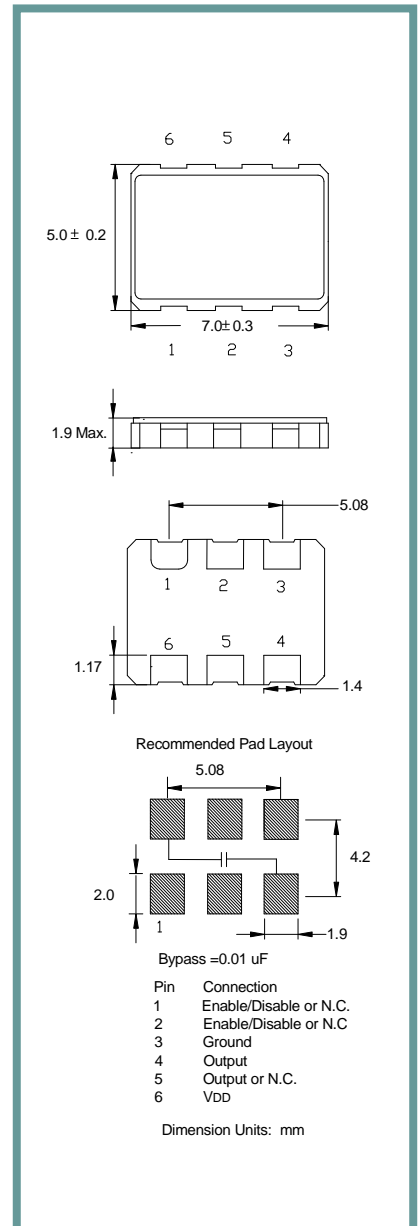
Product Features

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

Applications

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

| | |
|---|---|
| Frequency LVCMOS LVPECL LVDS | 10 MHz to 225 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 = 25 mA max., LVPECL = 60 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 |



| Part Number Guide | | Sample Part Number: ISM63-31A3H1-155.520 | | | | | |
|-------------------|---------------|--|--------------------|------------|--------------------|--------------------------------|--------------|
| Package | Input Voltage | Operating Temperature | Stability (in ppm) | Output | Enable / Disable | Complimentary Ouput (Pin 5) ** | Frequency |
| ISM63 | 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 output only.

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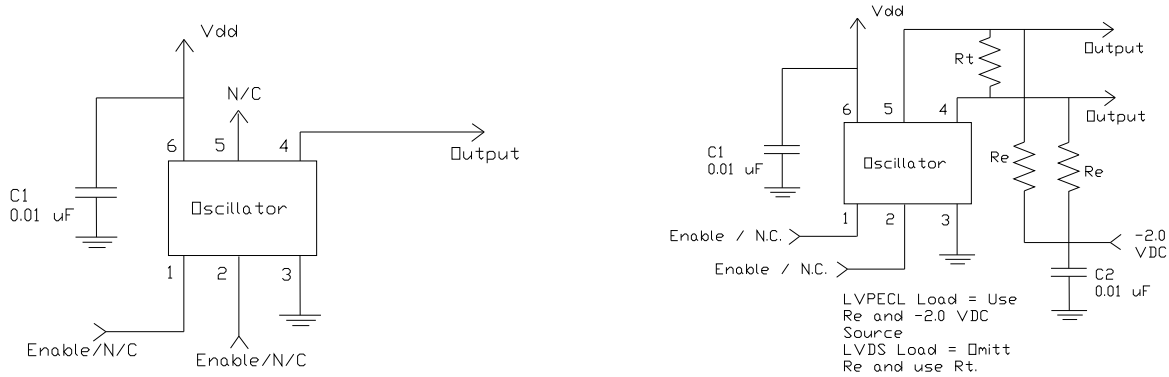


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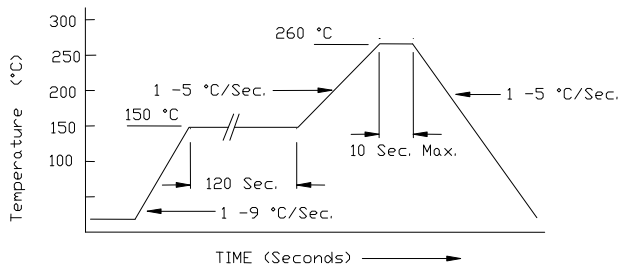


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Typical Application:



Pb Free Solder Reflow Profile:

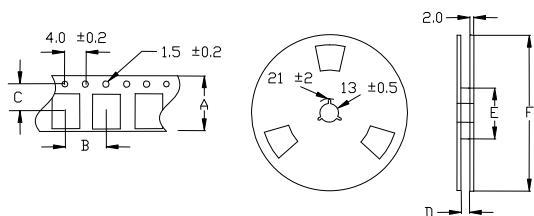


*Units are backward compatible with 240C reflow processes

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 metalization).

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 |



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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