



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



## ISM63 – Series

### Product Features

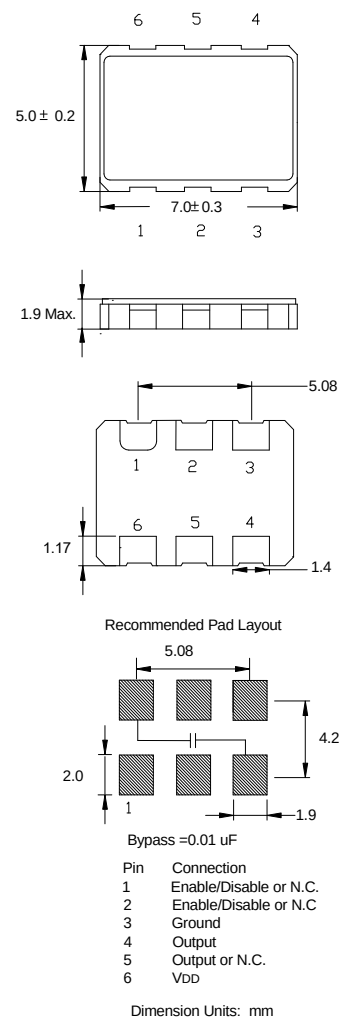
Small Surface Mount Package  
Fast Sample Delivery  
Frequencies to 1500 MHz  
Pb Free/ RoHS Compliant  
Leadfree Processing

### 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

|                                                     |                                                                                                                                       |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Frequency</b><br>LVCMOS<br>LVPECL<br>LVDS        | 10 MHz to 225 MHz<br>10 MHz to 1500 MHz<br>10 MHz to 1500 MHz                                                                         |
| <b>Output Level</b><br>LVCMOS<br>LVPECL<br>LVDS     | VOH=90% VDD min., VOL=10 % VDD max.<br>VOH=VDD-1.03V max. (Nom. Load), VOL=VDD-1.6V max. (Nom. Load)<br>VOD=(Diff. Output) 350mV Typ. |
| <b>Duty Cycle</b><br>LVCMOS<br>LVPECL<br>LVDS       | 50% ±5% @ 50%VDD<br>50% ±5% @ 50%*<br>50% ±5% @ 50%*                                                                                  |
| <b>Rise / Fall Time</b><br>LVCMOS<br>LVPECL<br>LVDS | 3.0 ns max. (90%/10%)*<br>0.6 ns max. (80%/20%)*<br>0.6 ns max. (80%/20%)*                                                            |
| <b>Output Load</b><br>LVCMOS<br>LVPECL<br>LVDS      | 15pF<br>50 Ω to VDD - 2.0 VDC<br>RL=100 Ω/CL=10pF                                                                                     |
| <b>Frequency Stability</b>                          | See Table Below                                                                                                                       |
| <b>Supply Voltage</b>                               | 3.3 VDC ± 10%, 2.5VDC ± 5%                                                                                                            |
| <b>Current</b>                                      | LVCMOS = 25 mA max., LVPECL = 60 mA max., LVDS = 35 mA max.                                                                           |
| <b>Phase Jitter (RMS)<br/>At 12kHz to 20 MHz</b>    | 0.9 ps typical                                                                                                                        |
| <b>Operating Temp.<br/>Range</b>                    | See Table Below                                                                                                                       |
| <b>Storage</b>                                      | -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<sub>DD</sub> (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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Specifications subject to change without notice





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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 <sup>-8</sup> atm cc/s |
| Solvent Resistance           | MIL-STD-202, Method 215                                                |

## Marking

Line 1: ILSI and Date Code (YWW)

Line 2: Frequency