

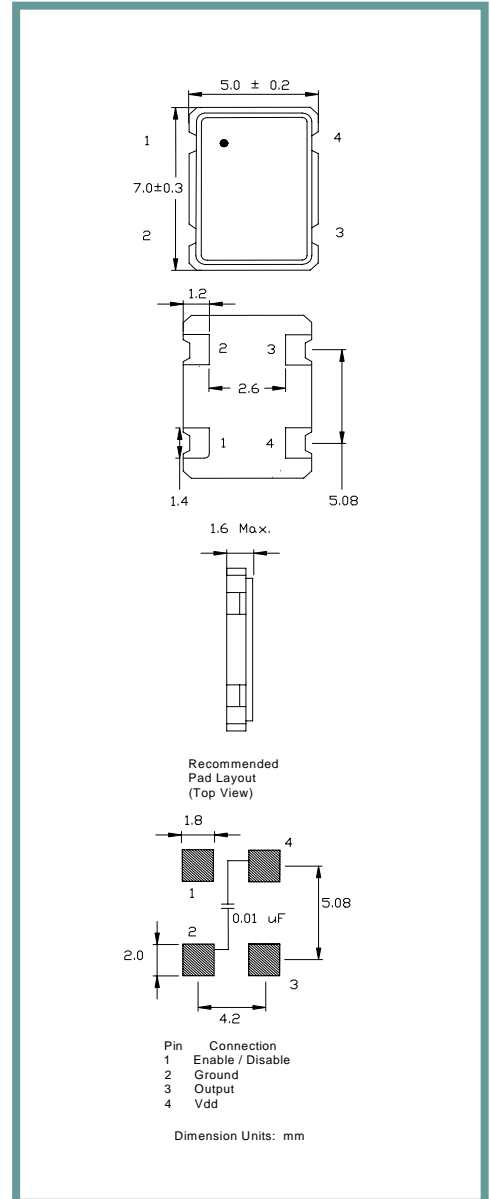
Product Features:

Low Jitter, Non-PLL Based Output
 CMOS/TTL Compatible Logic Levels
 Compatible with Leadfree Processing

Applications:

Fibre Channel
 Server & Storage
 Sonet /SDH
 802.11 / Wifi
 T1/E1, T3/E3
 System Clock

| | |
|--|--|
| Frequency | 1 MHz to 170.000 MHz |
| Output Level HC-MOS TTL | '0' = 0.1 Vcc Max., '1' = 0.9 Vcc Min. '0' = 0.4 VDC Max., '1' = 2.4 VDC Min. |
| Duty Cycle | Specify 50% ±10% or ±5% See Table in Part Number Guide |
| Rise / Fall Time | 5 nS Max. @ Vcc = +3.3 VDC, 10 nS Max. @ Vcc = +5 VDC *** |
| Output Load | Fo < 50 MHz = 10 TTL, Fo > 50 MHz = 5 LSTTL See Table in Part Number Guide |
| Frequency Stability | See Frequency Stability Table (Includes room temperature tolerance and stability over operating temperature) |
| Start-up Time | 10 mS Max. |
| Enable / Disable Time | 100 nS Max. |
| Supply Voltage | See Input Voltage Table, tolerance ±5 % |
| Current | 70 mA Max. *** |
| Operating | See Operating Temperature Table in Part Number Guide |
| Storage | -55° C to +125° C |
| Jitter: RMS(1sigma) 1 MHz-75 MHz 76 MHz-170 MHz | 5 pS RMS (1 sigma) Max. accumulated jitter (20K adjacent periods) 3 pS RMS (1 sigma) Max. accumulated jitter (20K adjacent periods) |
| Max Integrated 1 MHz-75 MHz 76 MHz-170 MHz | 1.5 pS RMS (1 sigma -12KHz to 20MHz) 1 pS RMS (1 sigma -12KHz to 20MHz) |
| Max Total Jitter 1 MHz-75 MHz 76 MHz-170 MHz | 50 pS p-p (100K adjacent periods) 30 pS p-p (100K adjacent periods) |



| Part Number Guide | | Sample Part Number: ISM91 - 3251BH - 20.000 | | | | | |
|-------------------|---------------|---|-----------------------|----------------------------|--------------------|------------------|--------------|
| Package | Input Voltage | Operating Temperature | Symmetry (Duty Cycle) | Output | Stability (in ppm) | Enable / Disable | Frequency |
| ISM91 - | 5 = 5.0 V | 1 = 0° C to +70° C | 5 = 45 / 55 Max. | 1 = 10TTL / 15 pF HC-MOS | **E = ±10 | H = Enable | - 20.000 MHz |
| | 3 = 3.3 V | 6 = -10° C to +70° C | 6 = 40 / 60 Max. | 5 = 50 pF HC-MOS (<40 MHz) | **D = ±15 | O = N/C | |
| | 7 = 3.0 V | 3 = -20° C to +70° C | | 6 = 30 pF | **F = ±20 | | |
| | 2 = 2.7 V | 4 = -30° C to +75° C | | | A = ±25 | | |
| | 6 = 2.5 V | 2 = -40° C to +85° C | | | B = ±50 | | |
| | 1 = 1.8 V* | | | | C = ±100 | | |

NOTE: A 0.01 µF bypass capacitor is recommended between Vcc (pin 4) and GND (pin 2) to minimize power supply noise.
 * Not available at all frequencies. ** Not available for all temperature ranges. *** Frequency, supply, and load related parameters.



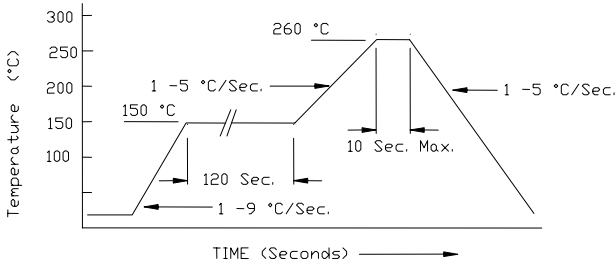
5 mm x 7 mm Ceramic Package SMD Oscillator, TTL / HC-MOS



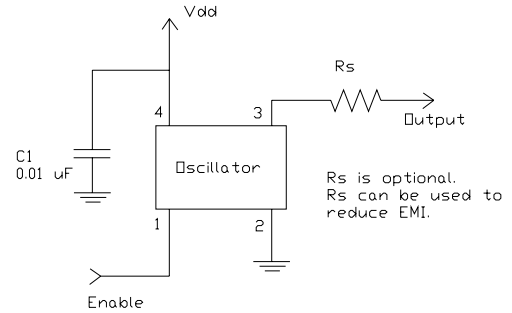
ISM91 Series

Pb Free Solder Reflow Profile:

Typical Application:



*Units are backward compatible with 240C reflow processes

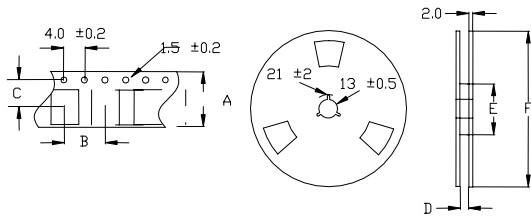


Package Information:

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 |

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