

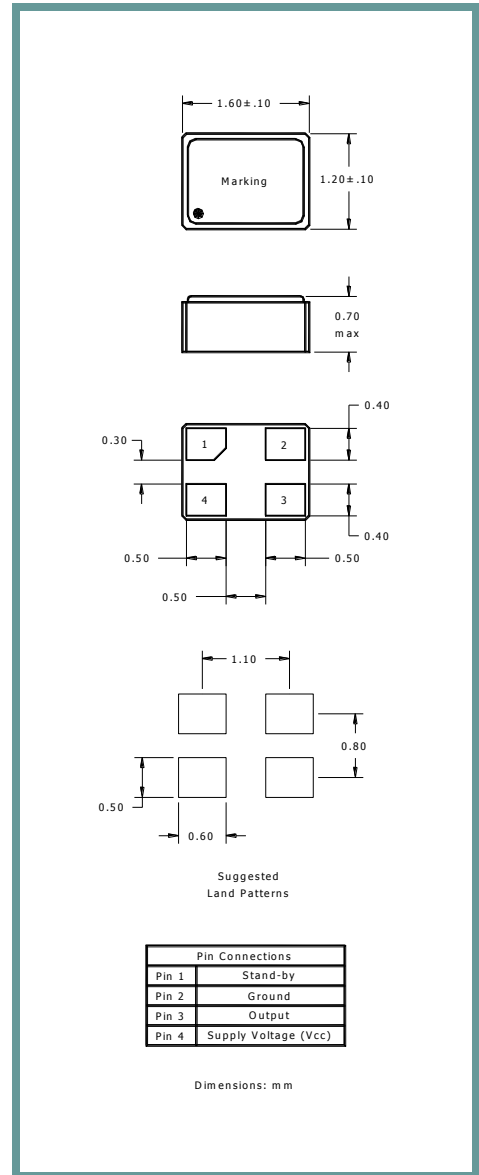
Product Features:

- Low Jitter, Non-PLL Based Output
- CMOS Output
- Wide Range of Supply Voltage (+1.8V to +3.3 V)
- Stand-by Function on Pin 1
- RoHS Compliant
- Compatible with Leadfree Processing

Applications:

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

Frequency	1.000000 MHz to 80.000000 MHz
Output Level CMOS	Logic "0" = 0.4 V max Logic "1" = Vcc - 0.4 V min
Duty Cycle	See Duty Cycle Table in Part Number Guide
Rise / Fall Time	4.5 nSec max (10% to 90% of waveform)
Output Load	15pF max
Frequency Stability	See Frequency Stability Table in Part Number Guide (Note 1)
Start-up time	2.0 mSec max with Vcc = +3.30 VDC 5.0 mSec max with Vcc = +1.80 VDC
Stand By Terminal Function (Pin 1)	0.7 Vcc min = Output enable 0.3 Vcc max = Oscillation stop and High impedance output
Supply Voltage (Vcc)	See Input Voltage Table in Part Number Guide (Tolerance = ±10%)
Current During Standby During Operation	10 µA max 2.5 typ., 3.5 mA max (1.8 V, 15 pF load @ 50.000MHz) 3.5 typ., 5.0 mA max (1.8 V, 15 pF load @ 80.000MHz) 4.2 typ., 6.0 mA max (3.3 V, 15 pF load @ 50.000MHz) 6.0 typ., 8.5 mA max (3.3 V, 15 pF load @ 80.000MHz)
Aging	± 3.0 ppm max @ +25°C First Year
Temperature Range Operating Storage	See Operating Temperature Table in Part Number Guide -40°C to +105°C
Random Jitter (RJ)	2.9 pSec typ
Total Jitter (TJ)	40.0 pSec typ TJ = n x RJ where n ≈ 14.1, BER = 10 ⁻¹²
Phase Jitter	1.0 pSec max Offset frequency = 12 kHz to 5.000MHZ



Notes:

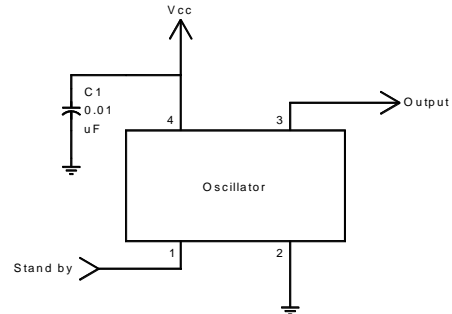
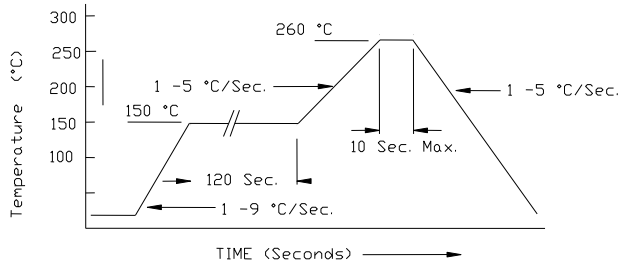
1. Includes room temperature tolerance and stability over operating temperature.
2. A 0.01 µF bypass capacitor is recommended between Vcc (Pin 4) and GND (Pin 2) to minimize power supply noise.

Part Number Guide:		Sample Part Number: ISM16-3153A-20.0000				
Package	Input Voltage	Operating Temperature	Duty Cycle (Symmetry)	Output	Stability (in ppm)	Frequency
ISM16	1 = +1.8V	1 = 0°C to +70°C	5 = 45/55 max	3 = 15 pF	A = ±25*	-20.0000
	3 = +3.3V	2 = -40°C to +85°C	6 = 40/60 max		B = ±50	
	6 = +2.5V	3 = -20°C to +70°C			C = ±100	
		5 = -30°C to +85°C			F = ±20*	
					G = ±30	

*Not available for all temperature ranges

Pb Free Solder Reflow Profile:

Typical Application:

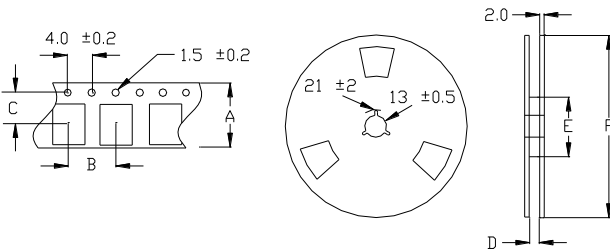


Units are backward compatible with 240°C reflow process.

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	3000
A	8.0 ±0.2
B	4.0 ±0.1
C	3.5 ±0.05
D	9.0 ±0.3
E	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: 1 - Date Code (yww)
Line 2: Frequency

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