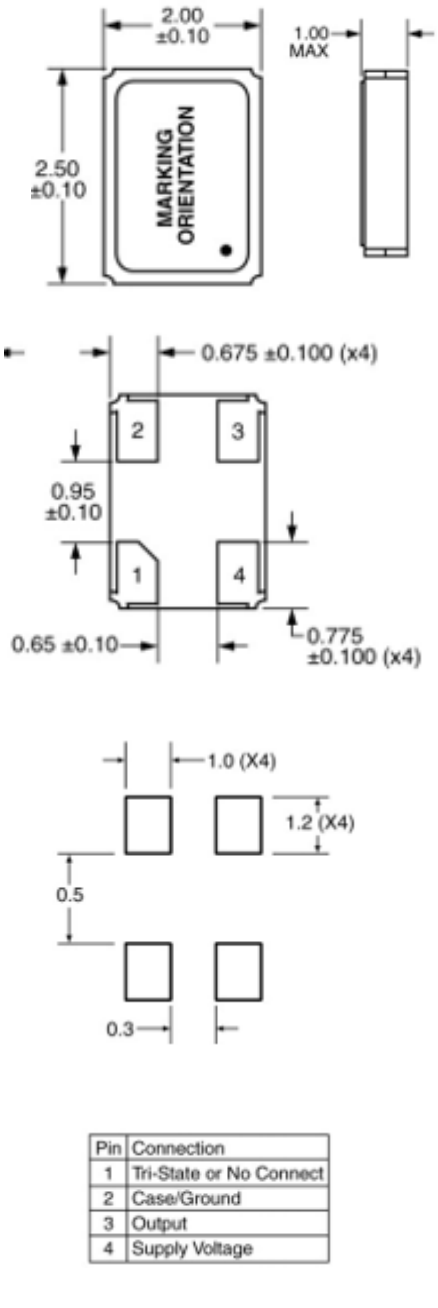
ISM95 Series

Product Feature:

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

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

Frequency Range	1.000 MHz to 156.250 MHz
Frequency Stability *(Inclusive of Calibration Tolerance at 25°C, Frequency Stability over Operating Temperature Range, Supply Voltage Change, Output Load Change, and First Year Aging at 25°C)*	±10ppm Maximum ±15ppm Maximum ±20ppm Maximum ±25ppm Maximum ±50ppm Maximum ±100ppm Maximum
Operating Temperature Range	0°C to +70°C, -10°C to +60°C, -10°C to +70°C, -20°C to +70°C, -30°C to +75°C, or -40°C to +85°C
Supply Voltage (Vdd) *(±5%)*	1.8V, 2.5V, 2.7V, 3.0V, 3.3V, 1.62V - 3.63V
Input Current	20mA Maximum
Output Logic Type	CMOS
Output Drive Capability	15pF Maximum 30pF Maximum
Aging	±3ppm/year Maximum
Duty Cycle *(Measured at 50% of waveform)*	50 ±5(%) or 50 ±10(%)
Rise / Fall Time *(Measured from 20% to 80% of waveform)*	6nSec Maximum
Output Voltage Logic High	90% of Vdd Minimum
Output Voltage Logic Low	10% of Vdd Maximum
Pin 1 Connection	Tri-State (High Impedance)
Input Voltage Logic High	70% of Vdd Minimum or No Connect to Enable Output
Input Voltage Logic Low	30% of Vdd Maximum to Disable Output (High Impedance)
Standby Current *(Disabled Output, High Impedance)*	10µA Maximum
Startup Time	10mSec Maximum
RMS Phase Jitter *(12kHz to 20MHz offset frequency)*	1pSec Maximum
Period Jitter (RMS) *(20k adjacent periods)*	5pSec Maximum
Period Jitter (pk-pk) *(100k adjacent periods)*	50pSec Maximum



Pin	Connection
1	Tri-State or No Connect
2	Case/Ground
3	Output
4	Supply Voltage

All Dimensions in Millimeters

NOTES:
●All minimum and maximum limits are specified over temperature and rated operating voltage with 15pF output unless otherwise stated.
●A 0.1µF bypass capacitor is recommended between Vdd (pad 4) and GND (pad 2) to minimize power supply noise.

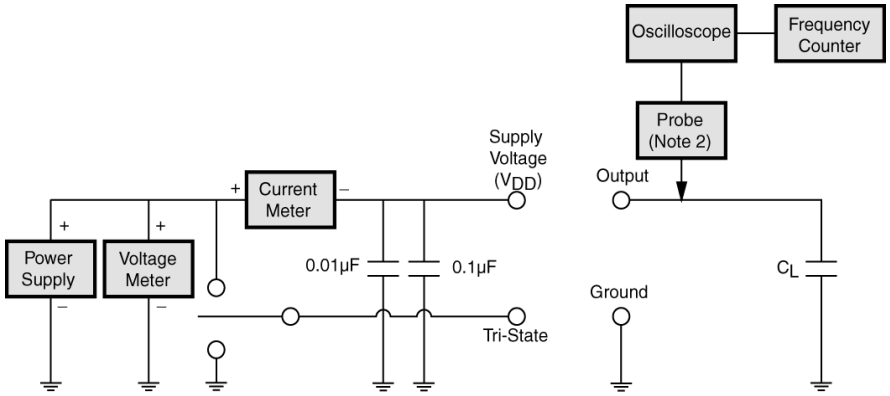
Absolute Maximum Limits:

Storage Temperature Range	-55°C to +125°C
Supply Voltage Range	-0.3Vdc to Vdd +0.3Vdc
Electrostatic Discharge	2000V Maximum
Solder Temperature	260°C Maximum
Junction Temperature	150°C Maximum

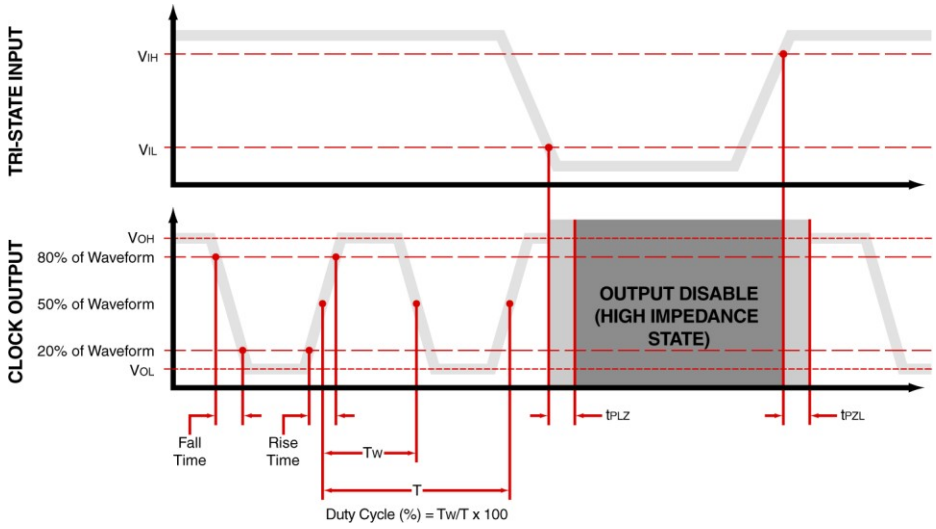
Environmental Specifications:

Mechanical Shock	MIL-STD-202, Method 213
Mechanical Vibration	MIL-STD-202, Method 204
Resistance to Soldering Heat	MIL-STD-202, Method 210
Solderability	J-STD-002
Gross Leak	MIL-STD-883, Method 1014
Fine Leak	MIL-STD-883, Method 1014
Moisture Sensitivity Level	MSL 1 (+260°C)

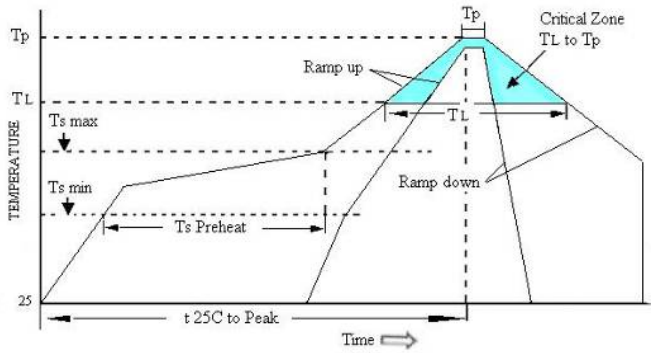
Test Circuit: Enable/Disable Option



Waveform: Enable/Disable Option



Pb Free Solder Reflow Profile:



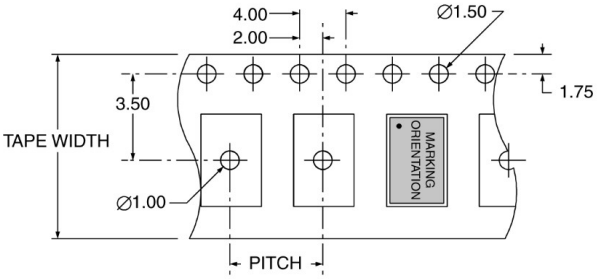
Units are backward compatible with 240C reflow processes

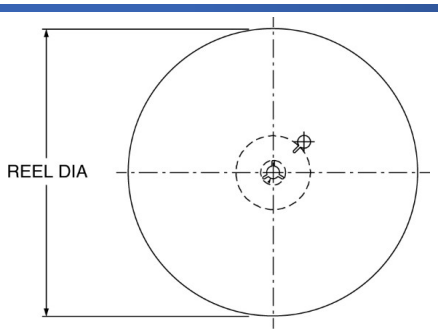
Ts max to T_L (Ramp-up Rate)	3ºC / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150ºC 175ºC 200ºC 60 to180 seconds
Ramp-up Tate (T_L to Tp	3ºC / second max
Time Maintained Above Temperature (T_L) Time (T_L)	 217ºC 60 to 150 seconds
Peak Temperature (Tp)	260ºC max for 10 seconds
Time within 5ºC to Peak Temperature (Tp)	20 to 40 seconds
Ramp-down Rate	6ºC / second max
Tune 25ºC to Peak Temperature	8 minutes max

Package Information:

Termination = e4 (Au over Ni over W base metallization).
Terminal Plating Thickness: Gold (0.3µm to 1.0µm), Nickel (1.27µm to 8.89µm)

Tape and Reel Information:





QTY PER REEL	**3000**
PITCH	4.00
TAPE WIDTH	8.00
REEL DIA	180

Part Number Guide **Sample Part Number: ISM95 - 3251BH - 20.000 MHZ**

Package	Input Voltage	Operating Temperature	Symmetry (Duty Cycle)	Output Drive Capability	Stability (in ppm)	Enable / Disable	Freaquency
ISM95 -	3 = 3.3 V	1 = 0° C to +70° C	5 = 45 / 55 Max.	1 = 15 pF	A = ±25	H = Enable	-20.000 MHz
	7 = 3.0 V	8 = -10° C to +60° C	6 = 40 / 60 Max.	6 = 30 pF	B = ±50	O = N/C	
	2 = 2.7 V	6 = -10° C to +70° C			C = ±100		
	6 = 2.5 V	3 = -20° C to +70° C			D = ±15		
	1 = 1.8 V	4 = -30° C to +75° C			E = ±10		
	8 = 1.62V – 3.63V	2 = -40° C to +85° C			F = ±20		