Product Features:

Low Jitter, Non-PLL Based Output
Compatible with Lead free Processing
Pb-free, Halogen-free, and Antimony-free
RoHS and REACH compliant

Applications:

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

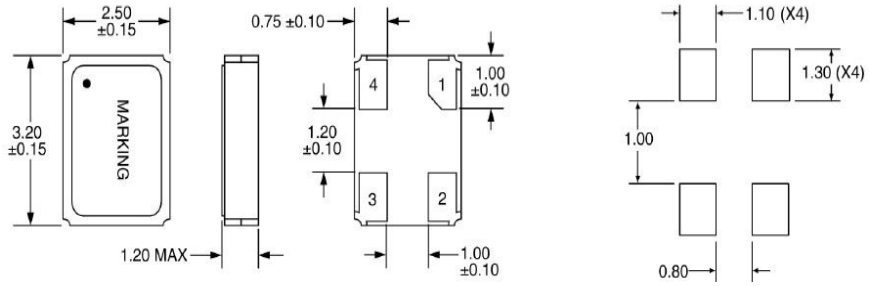
Electrical Specifications:

Frequency Range	1.000MHz to 156.250MHz	
Frequency Stability	±10ppm Maximum ±15ppm Maximum ±20ppm Maximum ±25ppm Maximum ±50ppm Maximum ±100ppm Maximum	Inclusive of Calibration Tolerance at 25°C, Frequency Stability over Operating Temperature Range, Supply Voltage Change, Output Load Change, and First Yea Aging at 25°C.
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)	1.8V, 2.5V, 2.7V, 3.0V, 3.3V, 1.62V - 3.63V	±5%
Input Current	20mA Maximum	
Output Logic Type	CMOS	
Output Drive Capability	15pF Maximum 30pF Maximum	
Aging	±3ppm/year Maximum	at +25°C
Duty Cycle	50 ±5(%) or 50 ±10(%)	Measured at 50% of waveform
Rise / Fall Time	6nSec Maximum	Measured from 20% to 80% of waveform
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	10µA Maximum	Disabled Output, High Impedance
Startup Time	10mSec Maximum	
RMS Phase Jitter	1pSec Maximum	12kHz to 20MHz offset frequency
Period Jitter (RMS)	5pSec Maximum	20k adjacent periods
Period Jitter (pk-pk)	50pSec Maximum	100k adjacent periods
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
NOTE: If the part is used beyond absolute maximum ratings, it may cause internal destruction. The part should be used under the recommended operating conditions or the reliability of this part may be damaged if those conditions are exceeded.	

Mechanical & Solder Pad Layout Dimensions:



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

Dimension Units: mm

Part Number Guide **Sample Part Number: ISM97-3251BH-20.000 MHz**

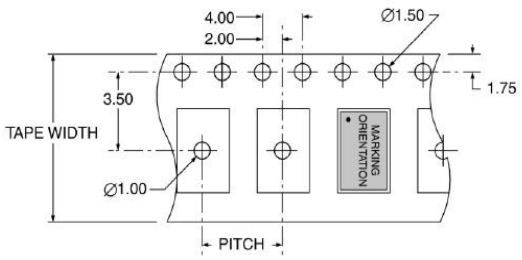
Series	Supply Voltage	Operating Temperature Range	Duty Cycle	Output Drive Capability	Frequency Stability	Pin 1 Connection	Frequency
ISM97-	3 = 3.3V	1 = 0°C to +70°C	5 = 50 ±5%	1 = 15pF	E = ±10ppm	H = Tri-State	-25.000 MH
	7 = 3.0V	8 = -10°C to +60°C	6 = 50 ±10%	6 = 30pF	D = ±15ppm	O = N/C	
	2 = 2.7V	6 = -10°C to +70°C			F = ±20ppm		
	6 = 2.5V	3 = -20°C to +70°C			A = ±25ppm		
	1 = 1.8V	4 = -30°C to +75°C			B = ±50ppm		
	8 = 1.62V - 3.63V	2 = -40°C to +85°C			C = ±100ppm		

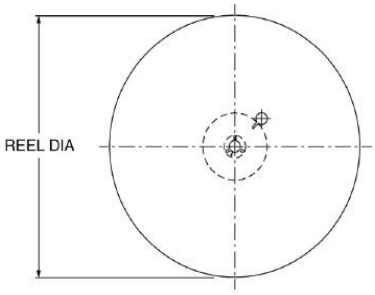
NOTES:
- Not all Frequency Stability options are available at all frequencies and Operating Temperature Ranges.
- Not all Output Drive Capability options are available at all frequencies.
- Not all Supply Voltage options are available at all frequencies.
- Please consult with Sales Department any other parameters or options.

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 & Reel Dimensions:

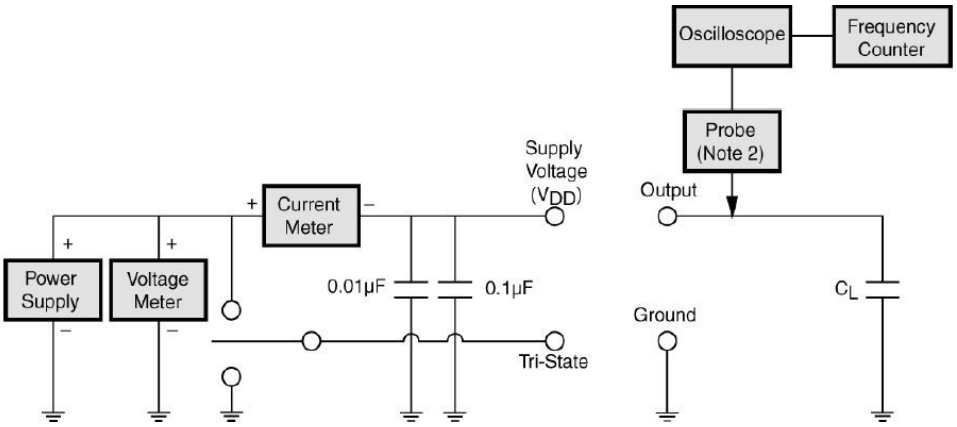




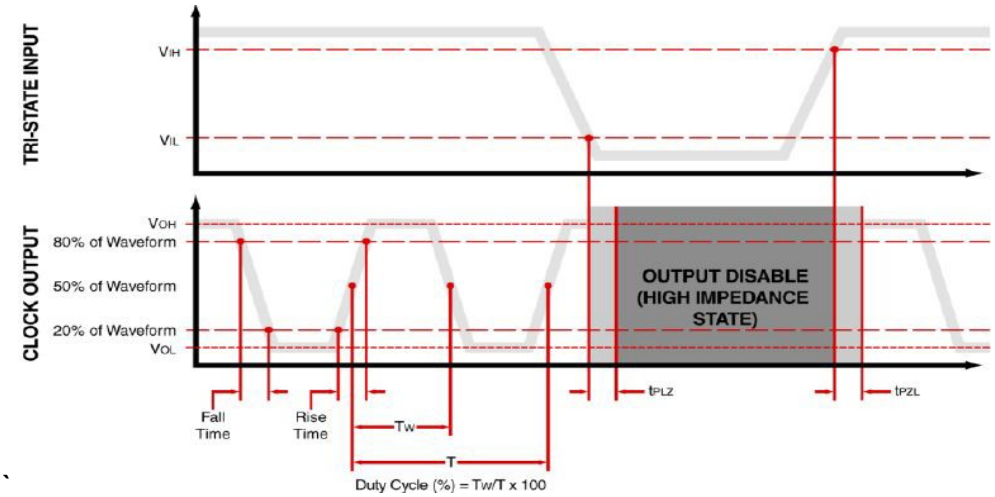
PITCH	4.00
TAPE WIDTH	8.00
REEL DIA	180
QTY PER REEL	3,000

Dimensions Units: mm

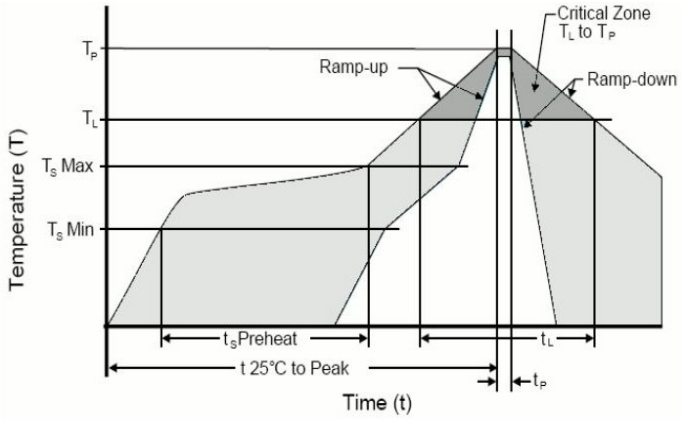
Test Circuit: Enable/Disable Option



Waveform: Enable/Disable Option



Solder Reflow Profile:



Units are backward compatible with +240°C reflow process

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 Rate (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
Moisture Sensitivity Level (MSL)	Level 1