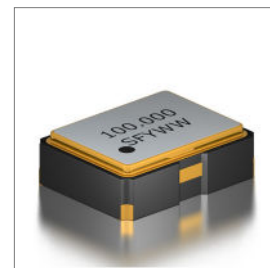


Features

- $\pm 20\text{ppm}$ (Frequency Stability) Available
- Ceramic Package
- LVDS
- Tape and Reel
- Ultra Low Phase Jitter

Applications

- Fiber Channel
- Gigabit Ethernet
- PCI Express



Part Numbering Guide

SUO 22 L 3 A 48 1 - 100.000M

SUNTSU ULTRA
LOW JITTER OSC

2.5mm x 2.0mm

LVDS

SUPPLY VOLTAGE

1 : 1.8V $\pm 5\%$
2 : 2.5V $\pm 5\%$
3 : 3.3V $\pm 5\%$

FREQUENCY STABILITY

A : $\pm 50\text{ppm}$
B : $\pm 30\text{ppm}$
C : $\pm 25\text{ppm}$
*D : $\pm 20\text{ppm}$

OPERATING TEMPERATURE
RANGE

07 : 0°C - +70°C
16 : -10°C - +60°C
17 : -10°C - +70°C
27 : -20°C - +70°C
38 : -30°C - +85°C
48 : -40°C - +85°C

FREQUENCY
MHz

TRI-STATE
(ENABLE/DISABLE)

1 : Pin 1
2 : Pin 2



Cage Code : 4GUT4

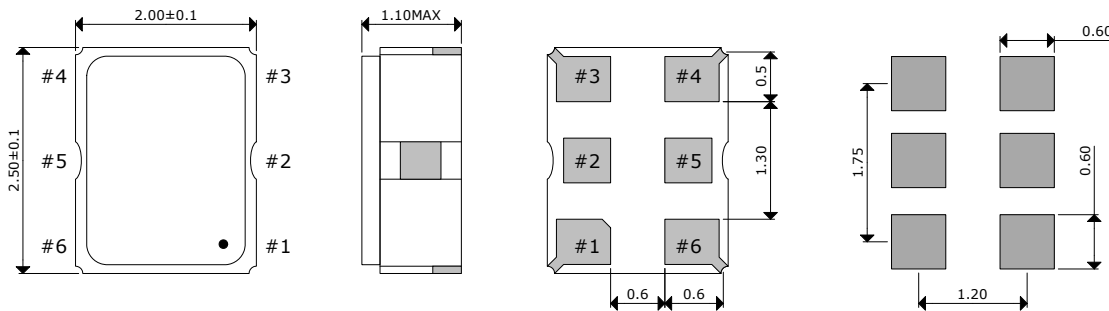
To customize your parameters, contact a Suntsu representative.

* For Frequency stability option D, contact a Suntsu representative.

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	13.5		156.25	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options
Operating Temperature	°C	-40		+85	See part numbering guide for options
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) - 1.8V Option	V	1.710	1.8	1.890	
Supply Voltage (V _{DD}) - 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) - 3.3V Option	V	3.135	3.3	3.465	
Current (I _{DD}) - 1.8V Option	mA			40	
Current (I _{DD}) - 2.5V Option	mA			40	
Current (I _{DD}) - 3.3V Option	mA			40	
Output Load (LVDS)	Ω			100	
Output Logic Levels High (V _{OH})	V		1.43	1.6	
Output Logic Levels Low (V _{OL})	V	0.9	1.1		
Differential Output Voltage (V _{OD})	mV	247	330	454	
Differential Output Error (pV _{OD})	mV			50	
Offset Voltage (V _{OS})	V	1.125	1.250	1.375	
Offset Error (pV _{OS})	mV			50	
Rise (TR) and Fall (TF) Time	ns			1	20% - 80% Output Swing Level
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12kHz ~ 20MHz)	ps		0.067	0.1	

Outline Drawing & Land Pattern

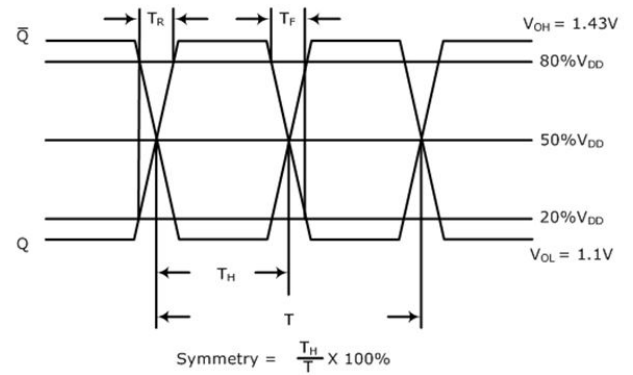
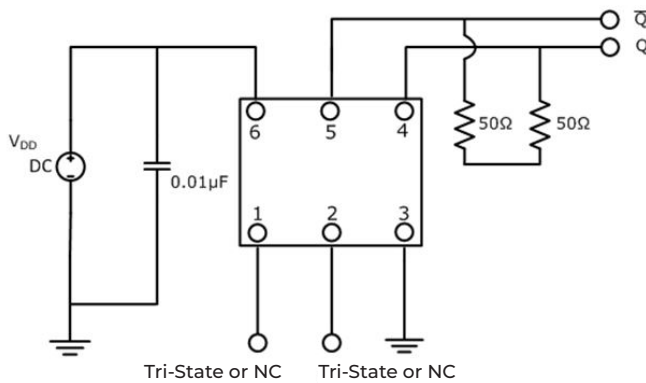
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



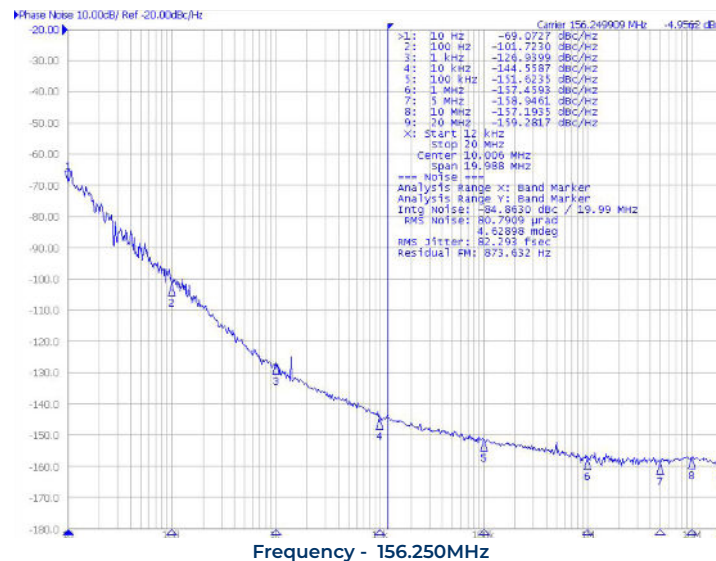
PIN	FUNCTION
1	TRI-STATE or NC
2	NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{DD}

Test Circuit (LVDS)

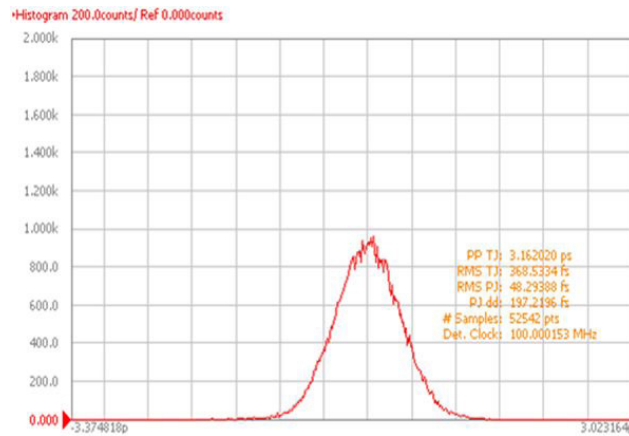
Waveform (LVDS)



Typical Phase Noise Performance (Measured By Agilent E5052A)

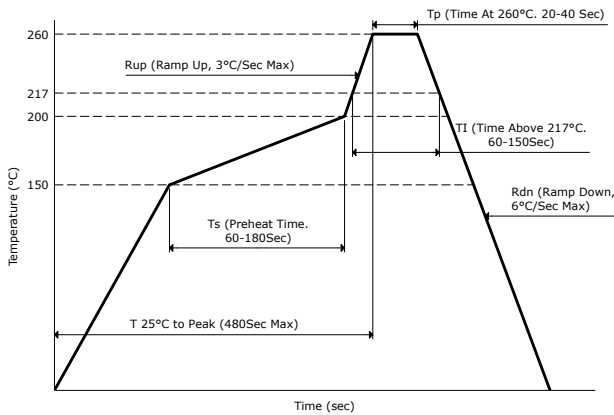


Typical Jitter Performance (Measured By Agilent E5052A)

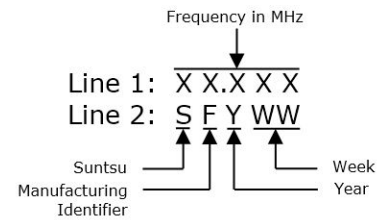


Frequency - 100.000MHz

Reflow Profile



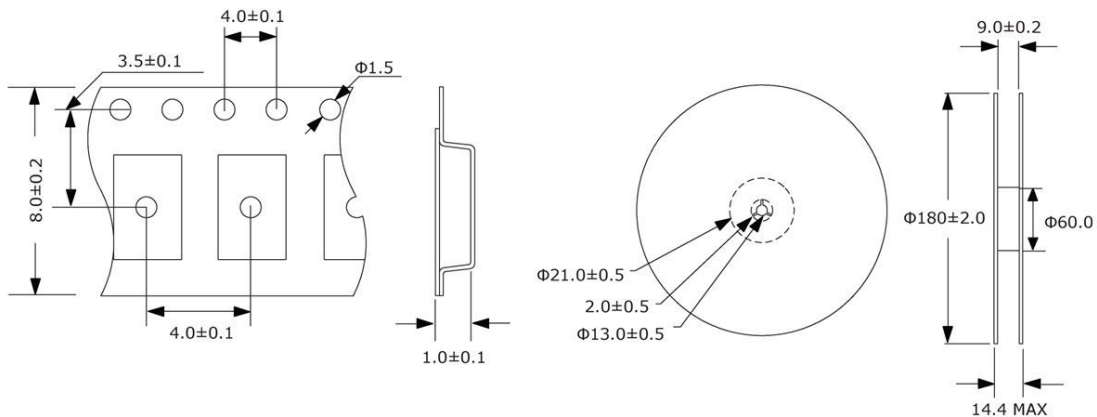
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

3,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K