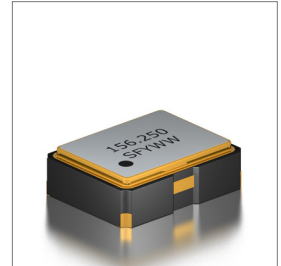


Features
• $\pm 20$ ppm (Frequency Stability) Available
• Ceramic Package
• LVPECL
• Tape and Reel
• Ultra Low Phase Jitter

Applications
• Fiber Channel
• Gigabit Ethernet
• PCI Express



**Part Numbering Guide**

**SUO 22 P 3 A 48 1 - 156.250M**

**SUNTSU ULTRA LOW JITTER OSC**

2.5mm x 2.0mm

LVPECL

**SUPPLY VOLTAGE**

2 : 2.5V $\pm$ 5%

3 : 3.3V $\pm$ 5%

**FREQUENCY STABILITY**

A :  $\pm 50$ ppm

B :  $\pm 30$ ppm

C :  $\pm 25$ ppm

\*D :  $\pm 20$ 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

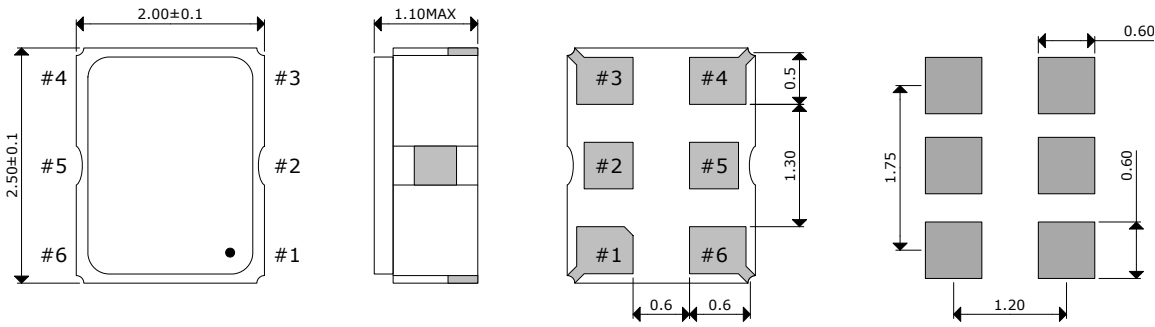
To customize your parameters, contact a Suntsu representative.

\* 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 <sub>DD</sub> ) - 2.5V option	V	2.375	2.5	2.625	
Supply Voltage (V <sub>DD</sub> ) - 3.3V option	V	3.125	3.3	3.465	
Current (I <sub>DD</sub> ) - 2.5V option	mA			50	
Current (I <sub>DD</sub> ) - 3.3V option	mA			50	
Output Load (LVPECL)	$\Omega$			50	50 $\Omega$ into V <sub>DD</sub> -2.0V <sub>DC</sub>
Output Logic Levels High (V <sub>OH</sub> )	V	V <sub>DD</sub> -1.025			
Output Logic Levels Low (V <sub>OL</sub> )	V			V <sub>DD</sub> -1.62	
Rise (TR) and Fall (TF) Time	ns			1.0	
Symmetry (Duty Cycle)	%	45	50	55	20% - 80% Output Swing Level
Tri-State Input Voltage - Enable	V	0.7*V <sub>DD</sub>			No Connection
Tri-State Input Voltage - Disable	V			0.3*V <sub>DD</sub>	
Start-Up Time	ms			10	
Phase Jitter (12kHz ~ 5MHz)	ps		0.6	1.0	Freq. <40.000M
Phase Jitter (12kHz ~ 20MHz)	ps		0.4	0.8	Freq. 40.000M - 124.999M
Phase Jitter (12kHz ~ 20MHz)	ps		0.1	0.2	Freq. 125.000M - 156.250M

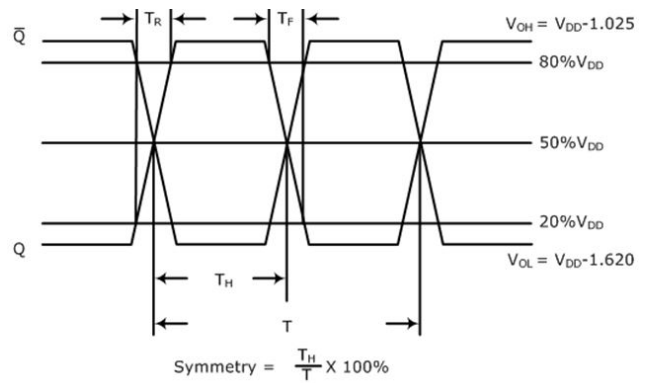
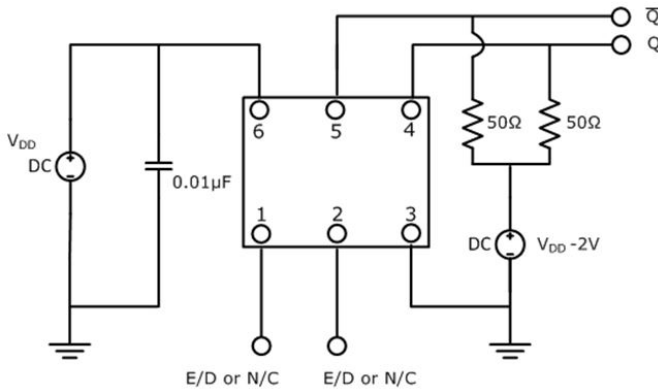
**Outline Drawing & Land Pattern**

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

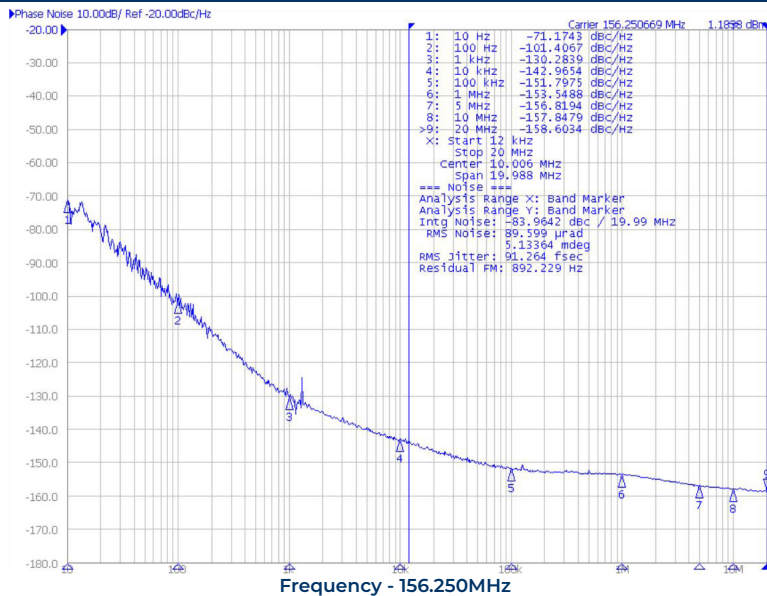


**Test Circuit (LVPECL)**

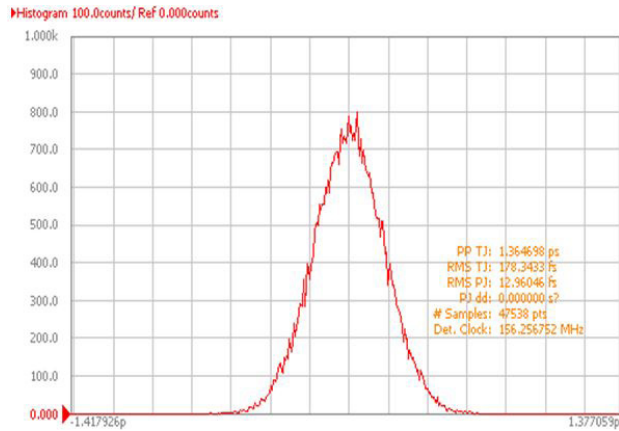
**Waveform (LVPECL)**



**Typical Phase Noise Performance (Measured By Agilent E5052A)**

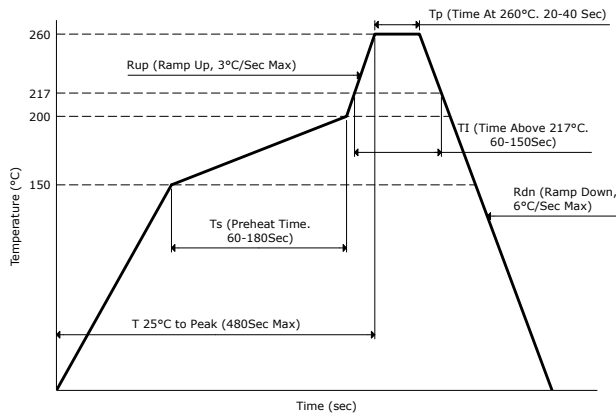


Typical Jitter Performance (Measured By Agilent E5052A)

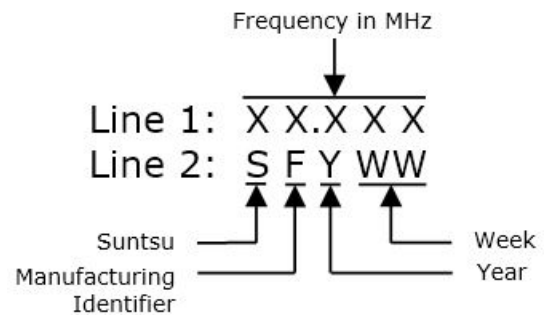


Frequency - 156.250MHz

Reflow Profile



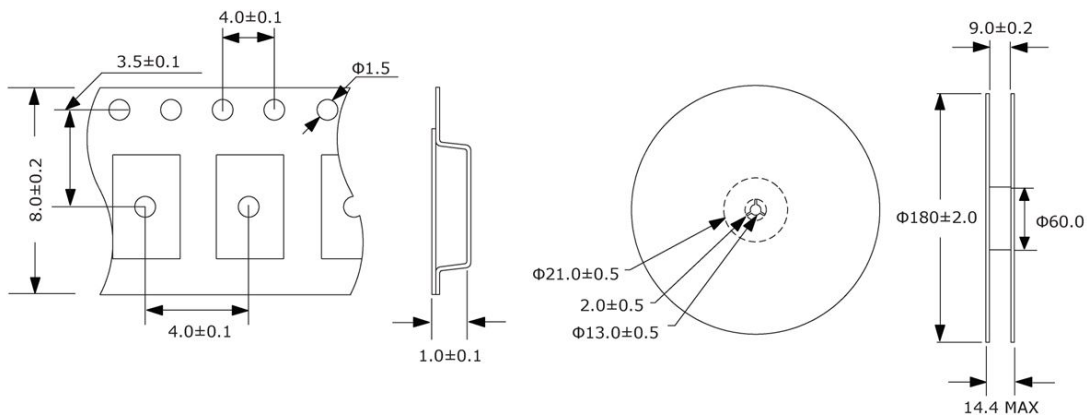
Part Marking



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