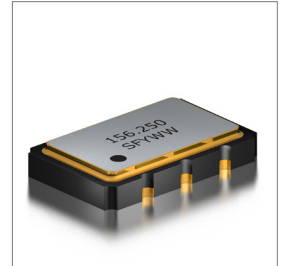


Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• LVPECL
• Ultra Low Phase Jitter (47fs Typical)
• Tape and Reel
• Fundamental or 3rd Overtone Crystal Design

Applications
• Fiber Channel
• Gigabit Ethernet
• PCI Express


Part Numbering Guide
SUO 53 P 3 A 48 1 - 156.250M

 SUNTSU ULTRA
LOW JITTER OSC

5.0mm x 3.2mm

LVPECL

SUPPLY VOLTAGE

 2 : 2.5 \pm 5%
3 : 3.3V \pm 5%

FREQUENCY STABILITY

 A : ± 50 ppm
B : ± 30 ppm
C : ± 25 ppm
*D : ± 20 ppm

OPERATING TEMPERATURE

RANGE

 07 : 0 $^{\circ}$ C - +70 $^{\circ}$ C
16 : -10 $^{\circ}$ C - +60 $^{\circ}$ C
17 : -10 $^{\circ}$ C - +70 $^{\circ}$ C
27 : -20 $^{\circ}$ C - +70 $^{\circ}$ C
38 : -30 $^{\circ}$ C - +85 $^{\circ}$ C
48 : -40 $^{\circ}$ C - +85 $^{\circ}$ C

 FREQUENCY
MHz

 TRI-STATE
(ENABLE/DISABLE)
BLANK : No Connection
1 : Pin 1


Cage Code : 4GUT4

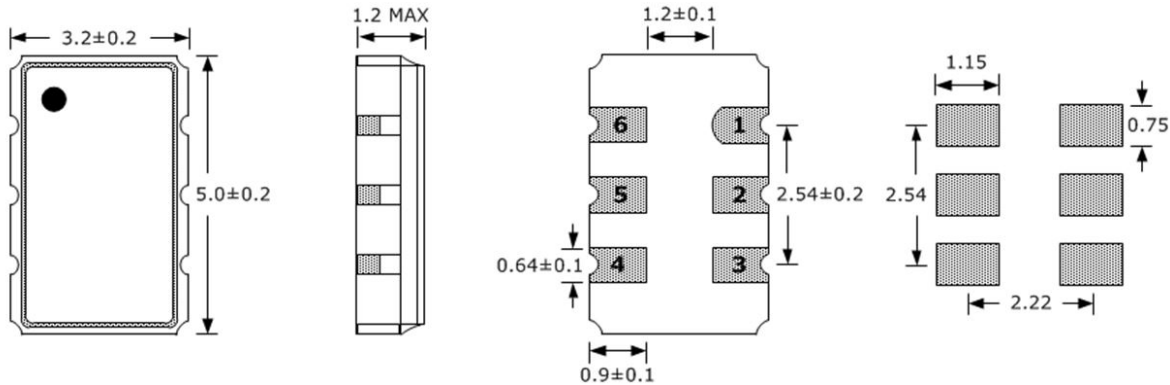
To customize your parameters, contact a Suntsu representative.

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

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	100		320	
Frequency Stability (Includes Initial Tolerance at 25 $^{\circ}$ C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25 $^{\circ}$ C.)	ppm	-20		+20	See part numbering guide for options
Operating Temperature	$^{\circ}$ C	-40		+85	See part numbering guide for options
Storage Temperature	$^{\circ}$ C	-55		+125	
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})	mA			70	
Output Load (LVPECL)	Ω			50	50 Ω into V _{DD} -2.0V _{DC}
Output Logic Levels High (V _{OH} at 2.5V)	V	1.415		1.760	
Output Logic Levels Low (V _{OL} at 2.5V)	V	0.670		1.195	
Output Logic Levels High (V _{OH} at 3.3V)	V	2.215		2.420	
Output Logic Levels Low (V _{OL} at 3.3V)	V	1.470		1.745	
Rise (TR) and Fall (TF) Time	ns		0.15	0.3	Measured at 20% to 80% of Waveform
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			5	
Phase Jitter (12kHz ~ 20MHz)	ps		0.047	0.1	

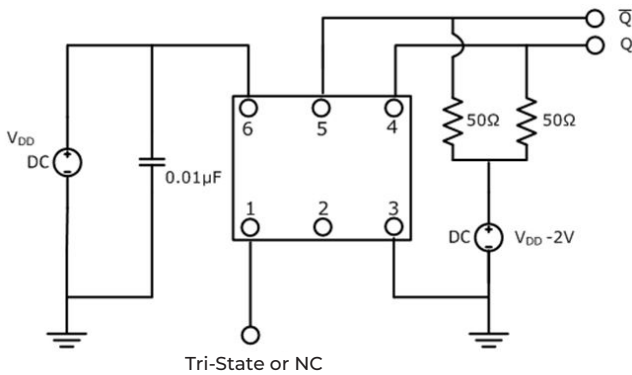
Outline Drawing & Land Pattern

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

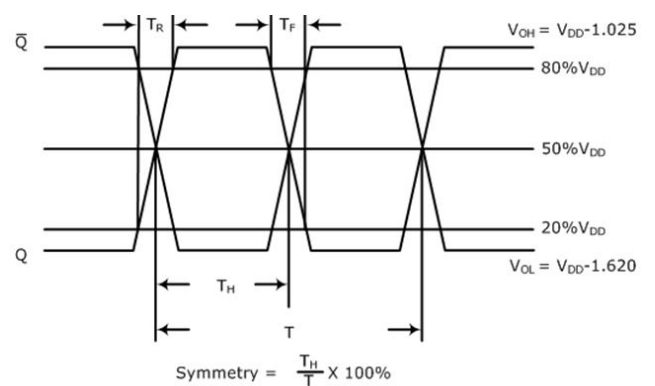


PIN	FUNCTION
1	TRI-STATE or NC
2	NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{DD}

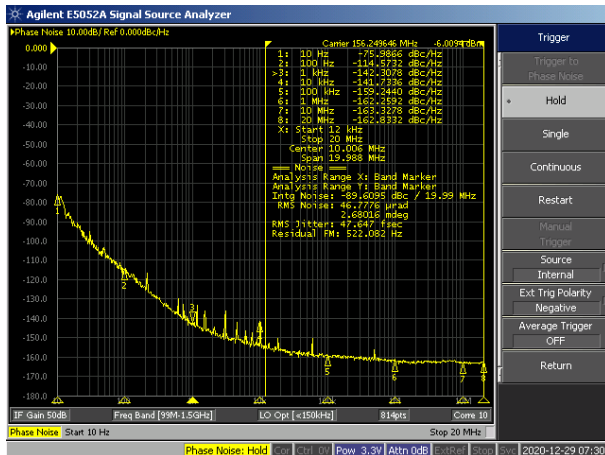
Test Circuit (LVPECL)



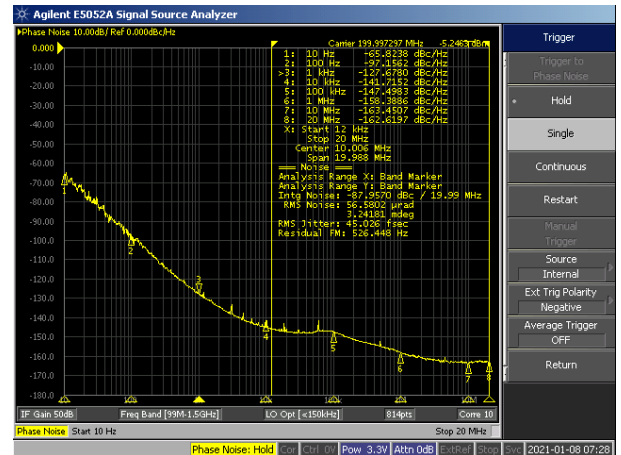
Waveform (LVPECL)



Typical Phase Noise Performance (Measured By Agilent E5052A)

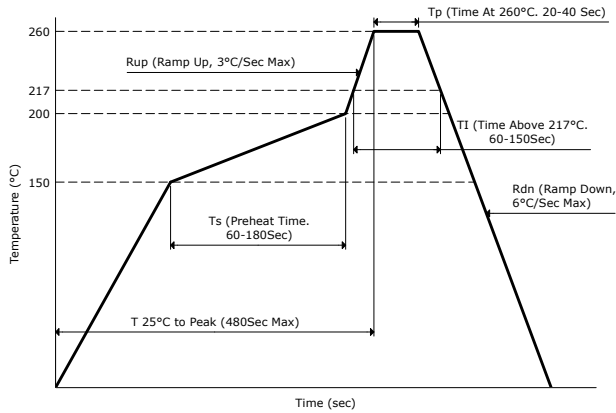


Frequency - 156.250MHz

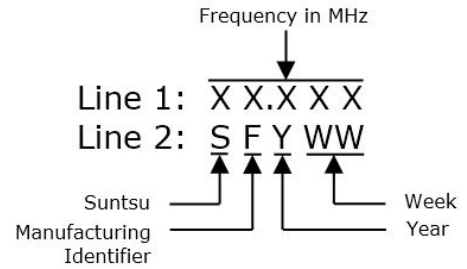


Frequency - 200.000MHz

Reflow Profile



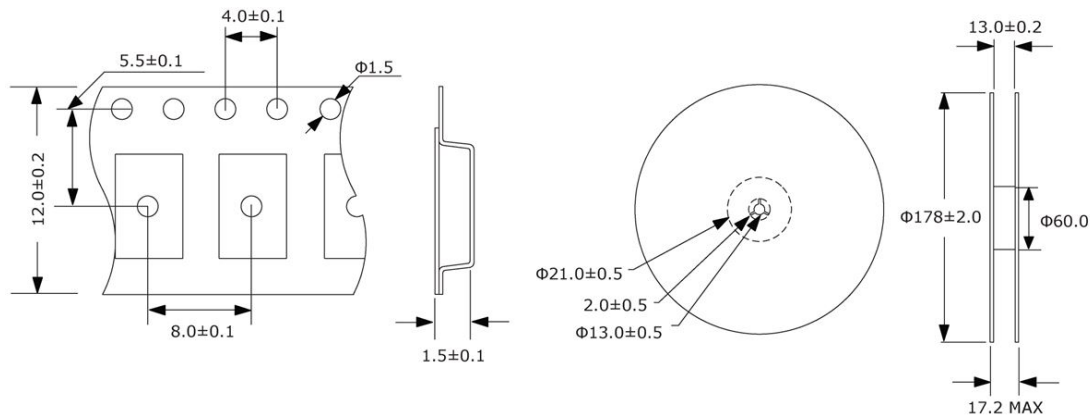
Part Marking



Tape And Reel Dimensions

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

1,000pcs/Reel



Environmental Specifications

Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Solderability	MIL-STD-883, Method 2003
Moisture Sensitivity	J-STD-020, MSL 1

Mechanical Specifications

Mechanical Shock	MIL-STD-202, Method 213, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Resistance to Solvents	MIL-STD-202, Method 215
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K