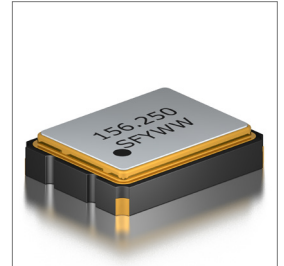


Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• LVDS
• Ultra Low Phase Jitter (67fs Typical)
• Tape and Reel
• Fundamental or 3rd Overtone Crystal Design

Applications
• Fiber Channel
• Gigabit Ethernet
• PCI Express



Part Numbering Guide

SUO 32 L 3 A 48 1 - 156.250M

SUNTSU ULTRA LOW JITTER OSC
3.2mm x 2.5mm

LVDS

SUPPLY VOLTAGE
1 : 1.8V \pm 5%
2 : 2.5V \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°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
156.250

TRI-STATE (ENABLE/DISABLE)
BLANK : NO E/D
1 : Pin 1

RoHS COMPLIANT

Cage Code : 4GUT4

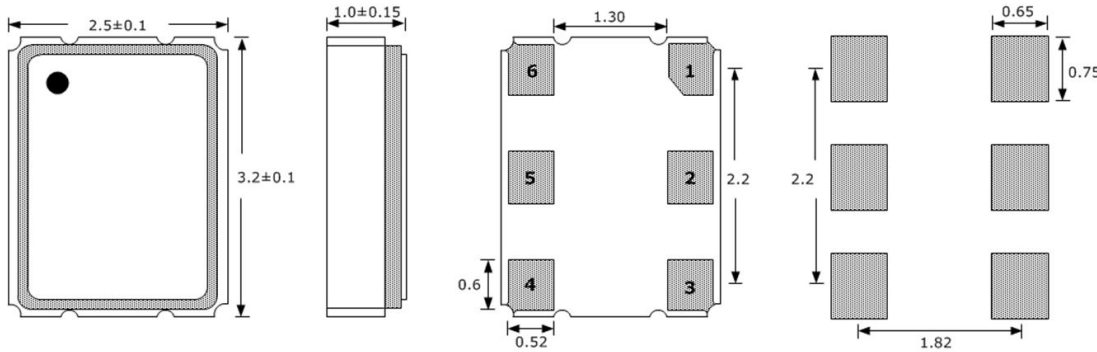
To customize your parameters, contact a Suntsu representative.

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

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	100		320	135~175MHz(1.8V), 100~320MHz(2.5&3.3V)
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})	mA			35	
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	350	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		0.25	0.5	
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			5.0	
Phase Jitter (12kHz ~ 20MHz)	fs		67	100	

Outline Drawing & Land Pattern

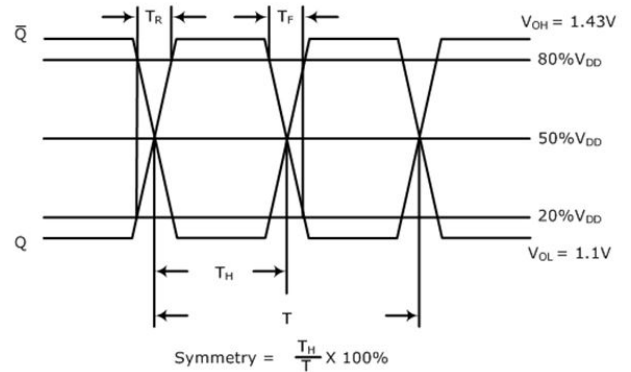
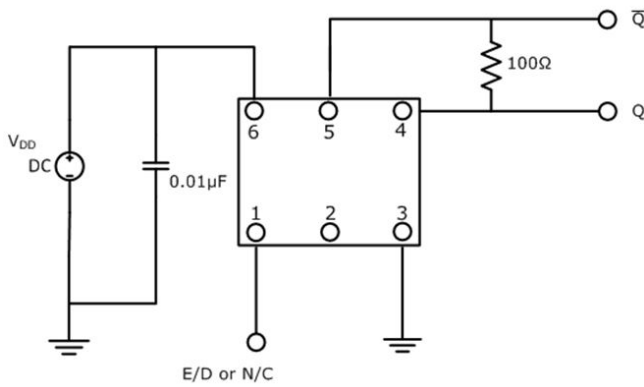
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



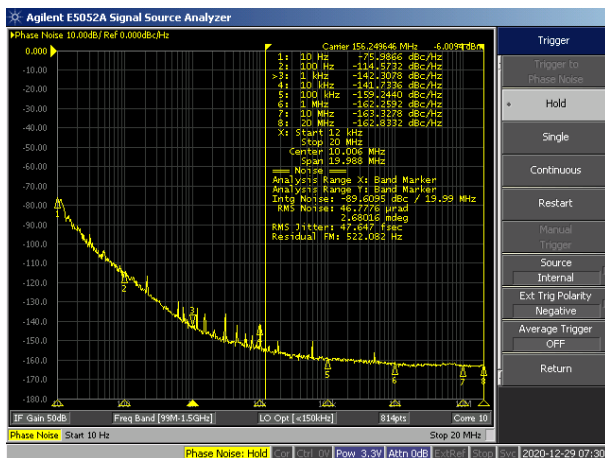
PIN	FUNCTION
1	TRI-STATE or NC
2	NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{DD}

Test Circuit (LVDS)

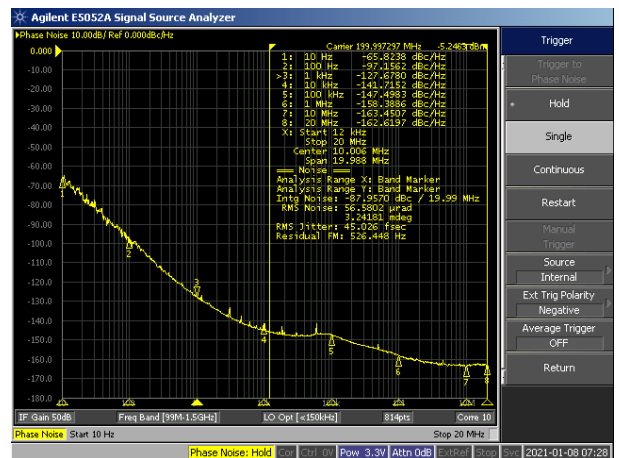
Waveform (LVDS)



Typical Phase Noise Performance (Measured By Agilent E5052A)

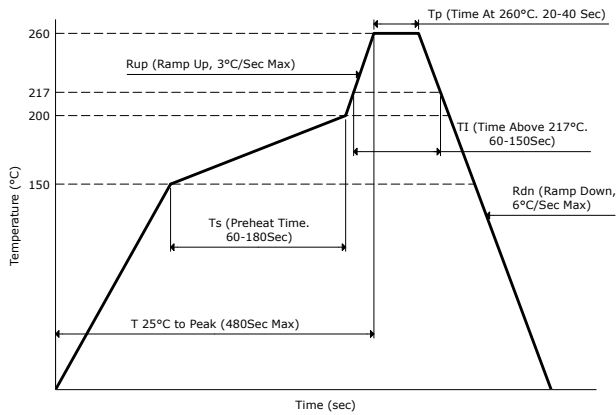


Frequency - 156.250MHz

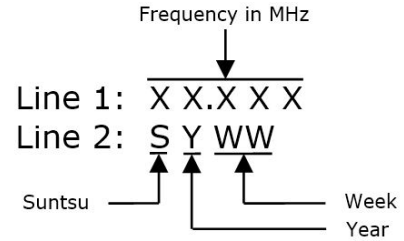


Frequency - 200.000MHz

Reflow Profile



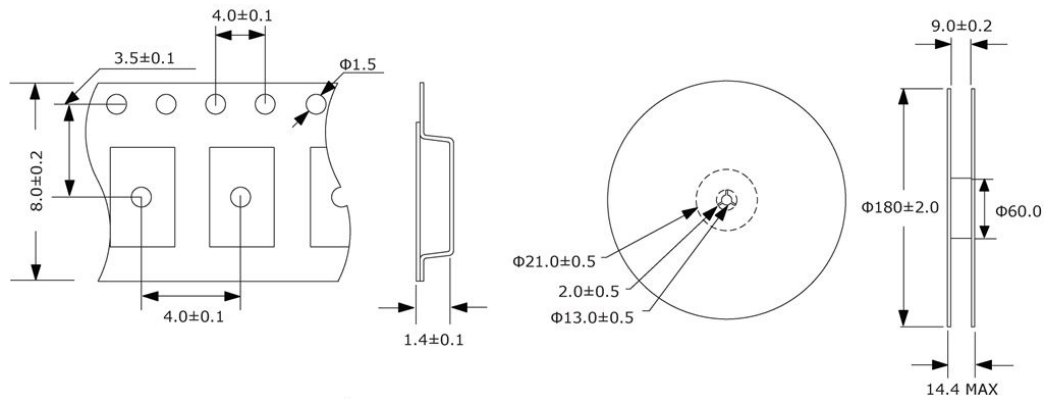
Part Marking



Tape And Reel Dimensions

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

3,000pcs/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