SUNTSU

Ceramic SMD Quick Turn 6 Pad LVDS Oscillator

SQG32L Series

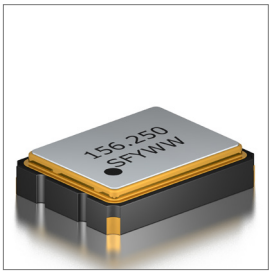
3.2mm x 2.5mm

Features

- ±20ppm (Frequency Stability) Available
- Wide Frequency Range
- LVDS
- Programmed Oscillator
- Tape and Reel

Applications

- Ethernet (10G/40G/100G)
- Base Stations
- Wi-Fi
- DSL/ADSL
- Communications



Part Numbering Guide

SQG 32 L 3 A 48 1 - 156.250M

- **SUNTSU QUICK TURN OSC** — SQG
- **3.2mm x 2.5mm** — 32
- **LVDS** — L
- **SUPPLY VOLTAGE** — 3
  - 2 : 2.5V±5%
  - 3 : 3.3V±5%
- **FREQUENCY STABILITY** — A
  - A : ±50ppm
  - B : ±30ppm
  - C : ±25ppm
  - *D : ±20ppm
- **OPERATING TEMPERATURE RANGE** — 48
  - 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
- **TRI-STATE (ENABLE/DISABLE)** — 1
  - 1 : Pin 1
  - 2 : Pin 2
- **FREQUENCY** — 156.250M
  - MHz

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	8		1500	
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}) - 2.5V option	V	2.375	2.5	2.625	
Supply Voltage (V_{DD}) - 3.3V option	V	3.125	3.3	3.465	
Current (I_{DD}) - 2.5V option	mA			35	
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 (ΔV_{OD})	mV			50	
Offset Voltage (V_{OS})	V	1.125	1.250	1.375	
Offset Error (ΔV_{OS})	mV			50	
Rise (TR) and Fall (TF) Time	ns			1	
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		0.5	1.5	

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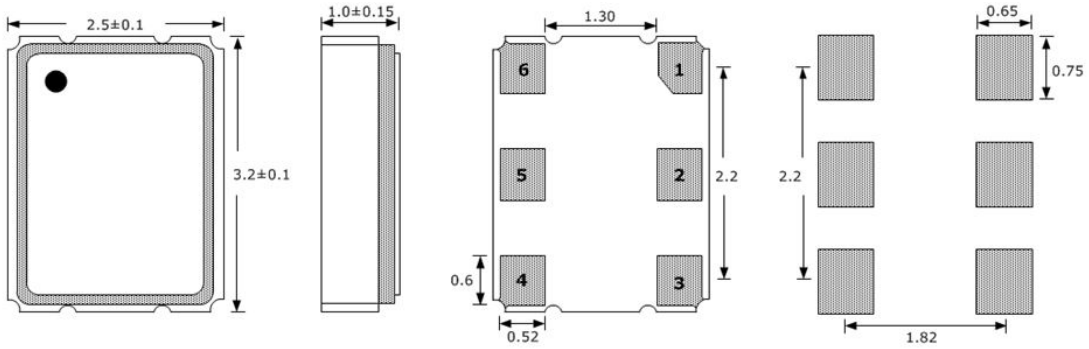
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3.2mm x 2.5mm

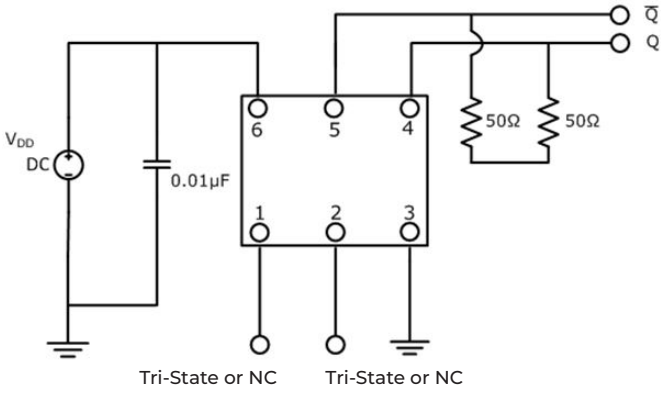
Outline Drawing & Land Pattern

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

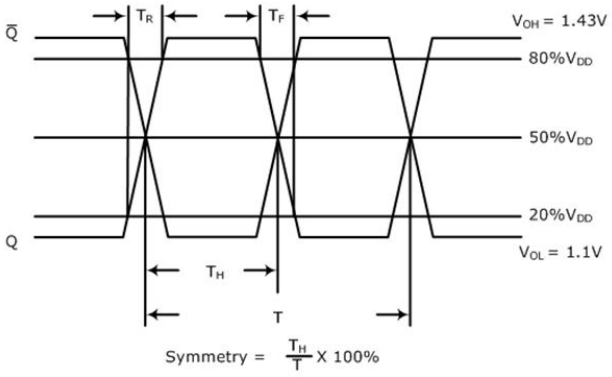


PIN	FUNCTION
1	TRI-STATE or NC
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V_{DD}

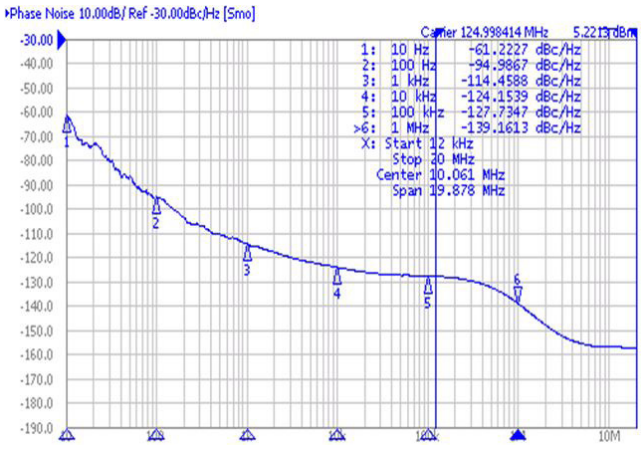
Test Circuit (LVDS)



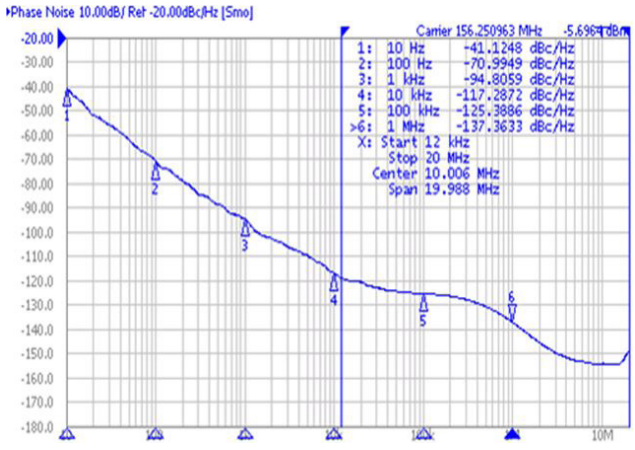
Waveform (LVDS)



Typical Phase Noise Performance (Measured By Agilent E5052A)



Frequency - 125.000MHz



Frequency - 156.250MHz

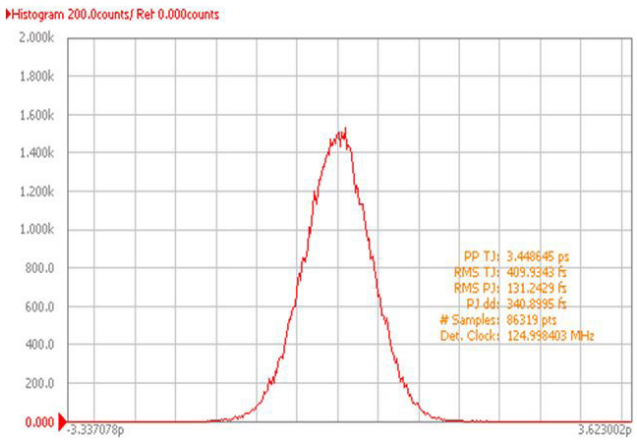
www.suntsu.com

Specifications are subject to change without notice.

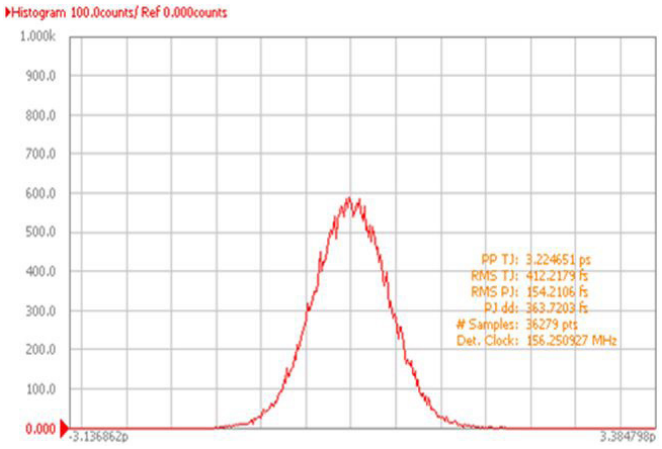
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Typical Jitter Performance (Measured By Agilent E5052A)

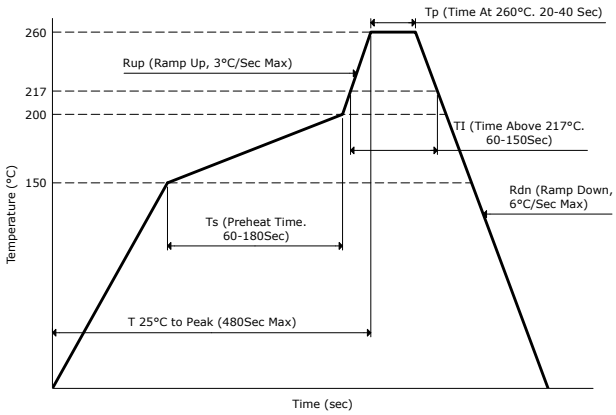


Frequency - 125.000MHz

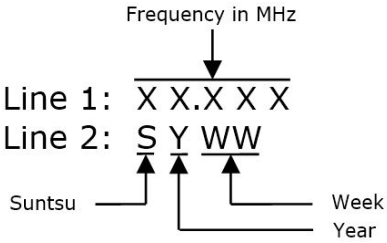


Frequency - 156.250MHz

Reflow Profile



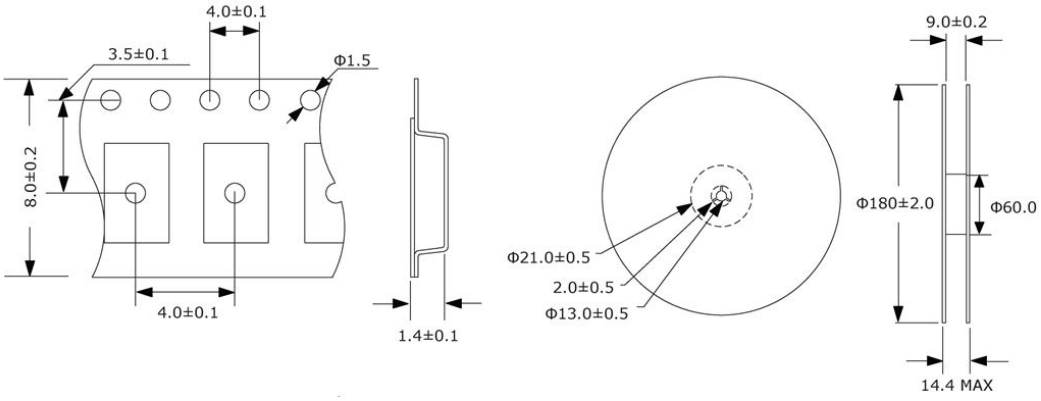
Part Marking



Tape And Reel Dimensions

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3,000pcs/Reel



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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

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