

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> <li>±20ppm (Frequency Stability) Available</li> <li>Ceramic Package</li> <li>LVDS</li> <li>Ultra Low Phase Jitter</li> <li>RoHS Compliant</li> <li>Tape and Reel</li> </ul>	<ul style="list-style-type: none"> <li>Fiber Channel</li> <li>Gigabit Ethernet</li> <li>PCI Express</li> </ul>

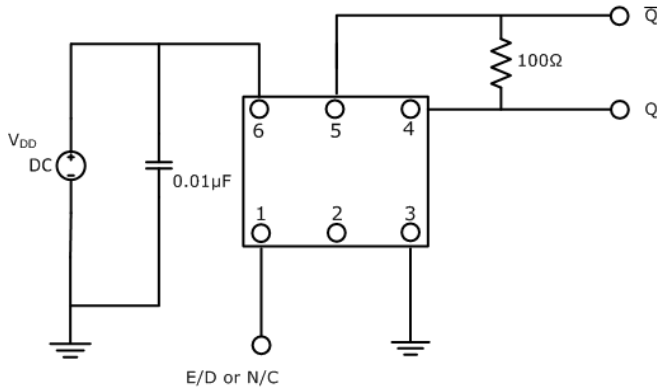


PART NUMBERING GUIDE	
<p><b>SUNTSU ULTRA LOW JITTER OSC</b> → <b>SUO 32 L 3 A 48 1</b> ← <b>FREQUENCY (MHz)</b></p> <p><b>3.2 mm x 2.5mm</b> →</p> <p><b>LVDS</b> →</p> <p><b>SUPPLY VOLTAGE</b> 3: 3.3V±5%</p> <p><b>FREQUENCY STABILITY</b> A: ±50ppm B: ±30ppm C: ±25ppm *D: ±20ppm</p>	<p><b>TRI-STATE (ENABLE/ DISABLE)</b> BLANK: NO E/D 1: Pin 1</p> <p><b>OPERATING TEMPERATURE RANGE</b> 07: 0°C to + 70°C 16: -10°C to + 60°C 17: -10°C to + 70°C 28: -20°C to + 70°C 38: -30°C to + 85°C 48: -40°C to + 85°C</p>
<p>Cage Code: 4GUT4 To customize your parameters contact a Suntsu representative. * For frequency stability option D contact a Suntsu representative.</p>	

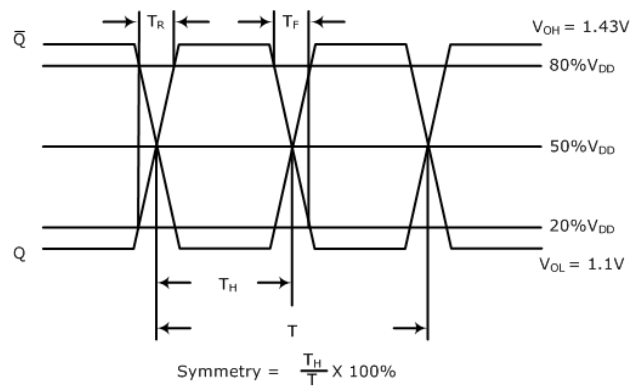
ELECTRICAL PARAMETERS	UNITS	MIN.	TYP.	MAX.	REMARKS
Frequency Range	MHz	80		170	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature		-55		+125	
Supply Voltage (V <sub>DD</sub> )	V	3.135	3.3	3.465	
Current (I <sub>DD</sub> )	mA			65	
Output Load (LVDS)	Ω			100	
Output Logic Levels	Output Logic High (V <sub>OH</sub> )		1.43	1.6	
	Output Logic Low (V <sub>OL</sub> )		0.9	1.1	
Differential Output Voltage (V <sub>OD</sub> )	mV	247	330	454	
Differential Output Error (ΔV <sub>OD</sub> )	mV			50	
Offset Voltage (V <sub>OS</sub> )	V	1.125	1.250	1.375	
Offset Error (ΔV <sub>OS</sub> )	mV			50	
Rise (T <sub>R</sub> ) and Fall (T <sub>F</sub> ) Time	ns		0.4	0.8	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage	Enable	V	0.7*V <sub>DD</sub>		No Connection.
	Disable			0.3*V <sub>DD</sub>	
Start-Up Time	ms			10	
Phase Jitter (12kHz ~ 20MHz)			0.077	0.1	150MHz~170MHz
			0.13	0.2	80MHz ~149MHz

OUTLINE DRAWING															
	<p>RECOMMENDED LAND PATTERN</p>														
<p>NOTE: Dimensions in millimeters (mm).</p>	<table border="1"> <thead> <tr> <th>PIN</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>TRI-STATE or NC</td> </tr> <tr> <td>2</td> <td>NC</td> </tr> <tr> <td>3</td> <td>GND</td> </tr> <tr> <td>4</td> <td>OUTPUT</td> </tr> <tr> <td>5</td> <td>COMP OUTPUT</td> </tr> <tr> <td>6</td> <td>V<sub>DD</sub></td> </tr> </tbody> </table>	PIN	FUNCTION	1	TRI-STATE or NC	2	NC	3	GND	4	OUTPUT	5	COMP OUTPUT	6	V <sub>DD</sub>
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### TEST CIRCUIT (LVDS)

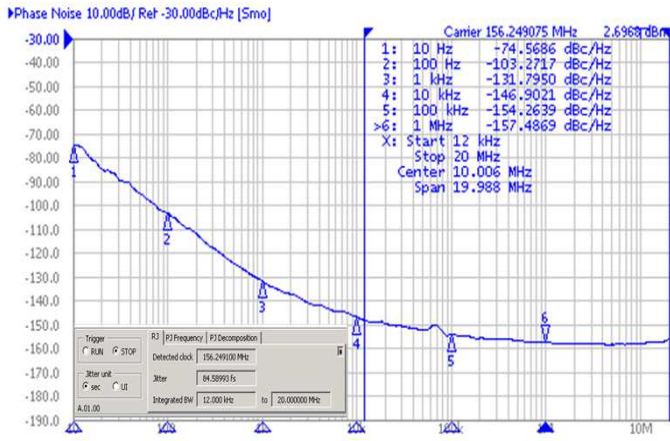


### WAVEFORM (LVDS)

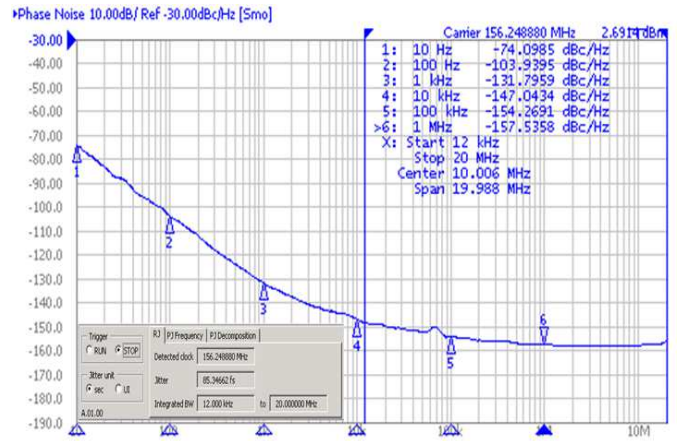


### TYPICAL PHASE NOISE PERFORMANCE (MEASURED BY AGILENT E5052A)

#### Frequency 156.250MHz

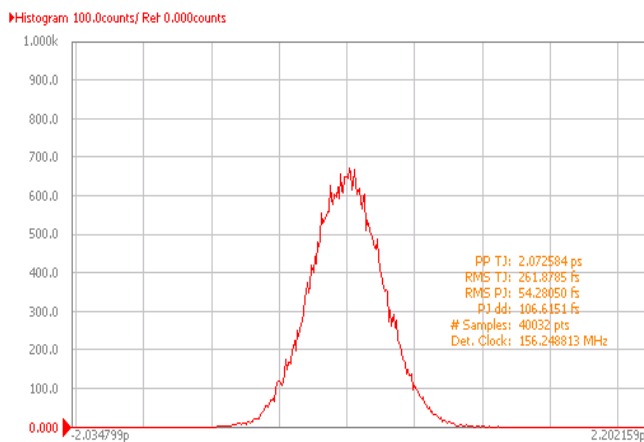


#### Frequency 156.250MHz

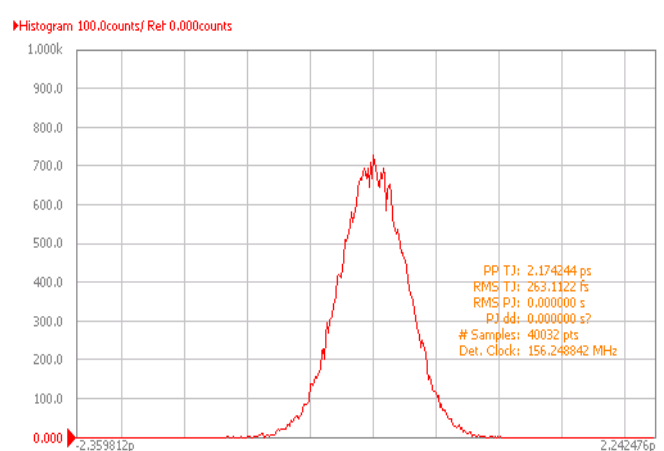


### TYPICAL JITTER PERFORMANCE (MEASURED BY AGILENT E5052A)

#### Frequency 125.000MHz



#### Frequency 156.250MHz





**REVISION RECORD**

Rev. Number	Revision Description	Rev. Date	Manufacturing Identifier
Rev. 01	Initial release	Nov. 02, 2016	K