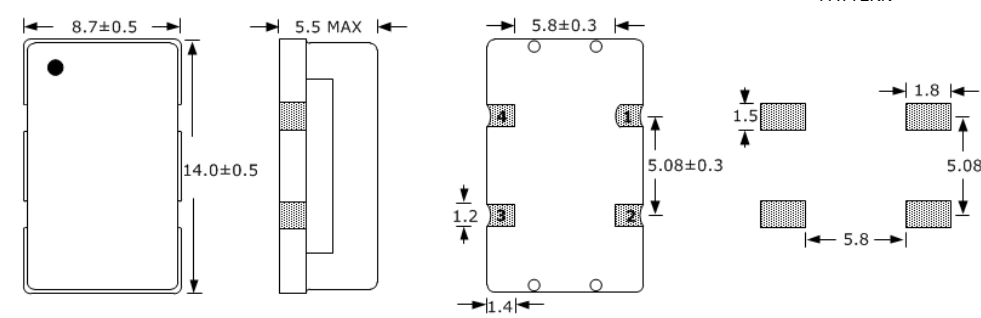


FEATURES	APPLICATIONS
<ul style="list-style-type: none"> ±25ppm (Frequency Stability) Available Ultra-Low Phase Noise and Jitter Performance High-Q Crystal and 3rd Overtone Technology RoHS Compliant Tape and Reel 	<ul style="list-style-type: none"> High Definition TV Avionics Low Phase Signal Sources Test and Measurement Equipment

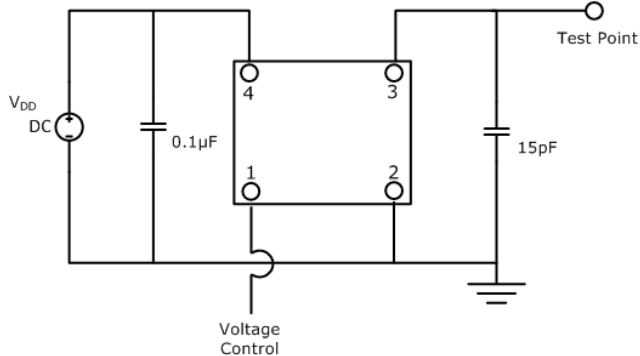


PART NUMBERING GUIDE	
<p>SUNTSU VCXO → SVC F4 C 3 A 48 B - 100.000M ← FREQUENCY (MHz)</p> <p>FR4 PCB 4 PAD</p> <p>CMOS</p> <p>SUPPLY VOLTAGE 3: 3.3V±5%</p> <p>FREQUENCY STABILITY A: ±50ppm B: ±30ppm C: ±25ppm *D: ±20ppm</p>	<p>PULLABILITY B: ±100ppm C: ±50ppm</p> <p>OPERATING TEMPERATURE RANGE 07: 0°C to +70°C 16: -10°C to +60°C 17: -10°C to +70°C 27: -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 D option contact a Suntsu representative.</p>	

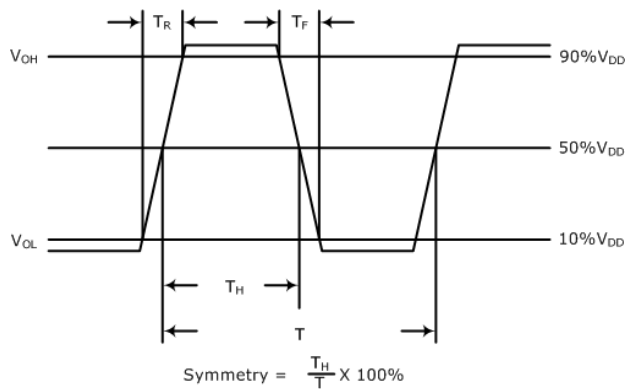
ELECTRICAL PARAMETERS	UNITS	MIN.	TYP.	MAX.	REMARKS
Frequency Range	MHz	10		130	
Frequency Stability (Overall)	ppm	-25		+25	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-45		+90	
Supply Voltage (V _{DD})	V	3.135	3.3	3.465	
Current (I _{DD})	mA		25	30	
Control Voltage (V _C)	V	0.0		3.3	
Pullability	ppm	±50		±100	See part numbering guide for options.
Input Impedance	kΩ			51	
Modulation Bandwidth	kHz	10			@-3dB
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic Levels	Output Logic High (V _{OH})	V	0.9*V _{DD}		
	Output Logic Low (V _{OL})	V		0.1*V _{DD}	
Rise Time (T _R) and Fall Time (T _F)	ns			3	
Symmetry (Duty Cycle)	%	45	50	55	
Start-Up Time	ms			10	
Aging	ppm	-3		+3	First year @ +25°C.
Phase Jitter (12kHz ~ 20MHz)	ps		0.1		

OUTLINE DRAWING											
	<p>RECOMMENDED LAND PATTERN</p> <table border="1"> <thead> <tr> <th>PIN</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>VOLTAGE CONTROL</td> </tr> <tr> <td>2</td> <td>GND</td> </tr> <tr> <td>3</td> <td>OUTPUT</td> </tr> <tr> <td>4</td> <td>V_{DD}</td> </tr> </tbody> </table>	PIN	FUNCTION	1	VOLTAGE CONTROL	2	GND	3	OUTPUT	4	V _{DD}
PIN	FUNCTION										
1	VOLTAGE CONTROL										
2	GND										
3	OUTPUT										
4	V _{DD}										
<p>NOTE: Dimensions in millimeters (mm).</p>											

TEST CIRCUIT (CMOS)

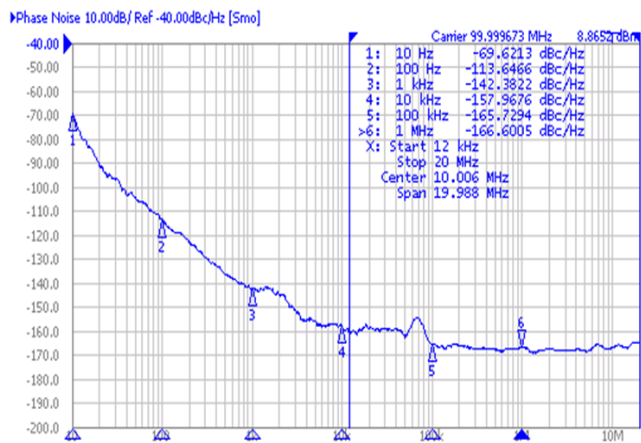


WAVEFORM (CMOS)

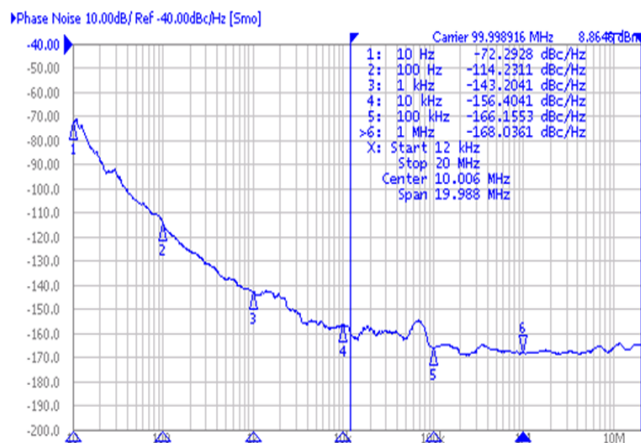


TYPICAL PHASE NOISE PERFORMANCE (MEASURED BY AGILENT E5052A)

Frequency 100.000MHz

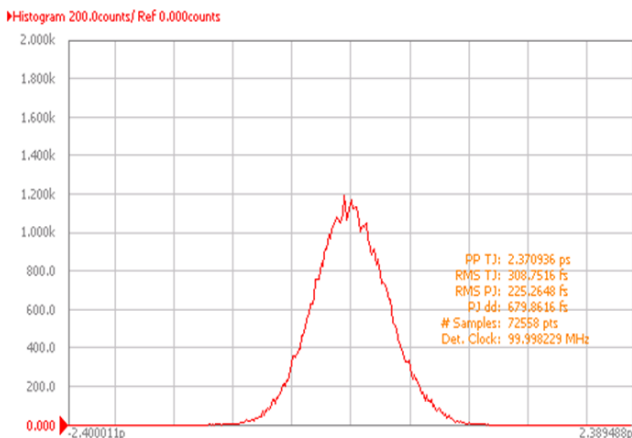


Frequency 100.000MHz

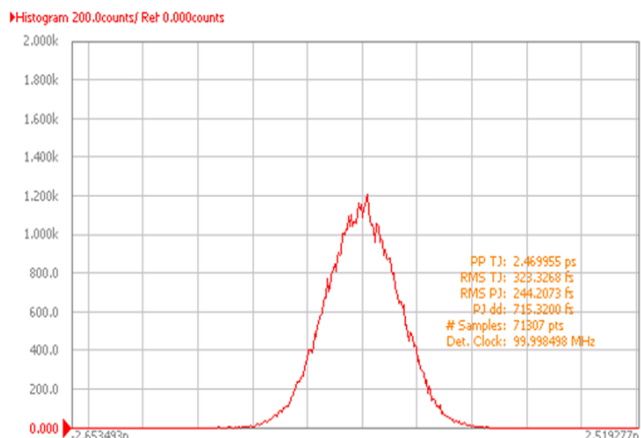


TYPICAL JITTER PERFORMANCE (MEASURED BY AGILENT E5052A)

Frequency 100.000MHz



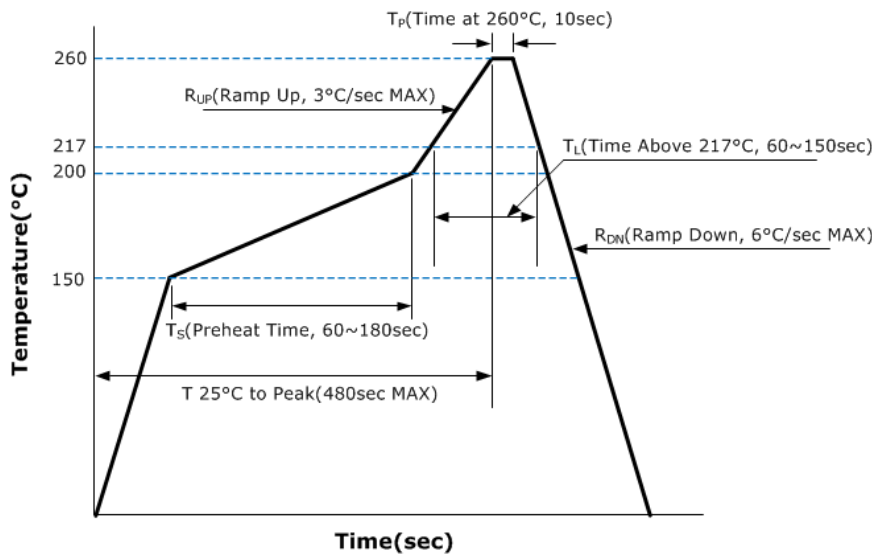
Frequency 100.000MHz



ENVIRONMENTAL & MECHANICAL 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
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003

REFLOW PROFILE



MARKING

Frequency in MHz

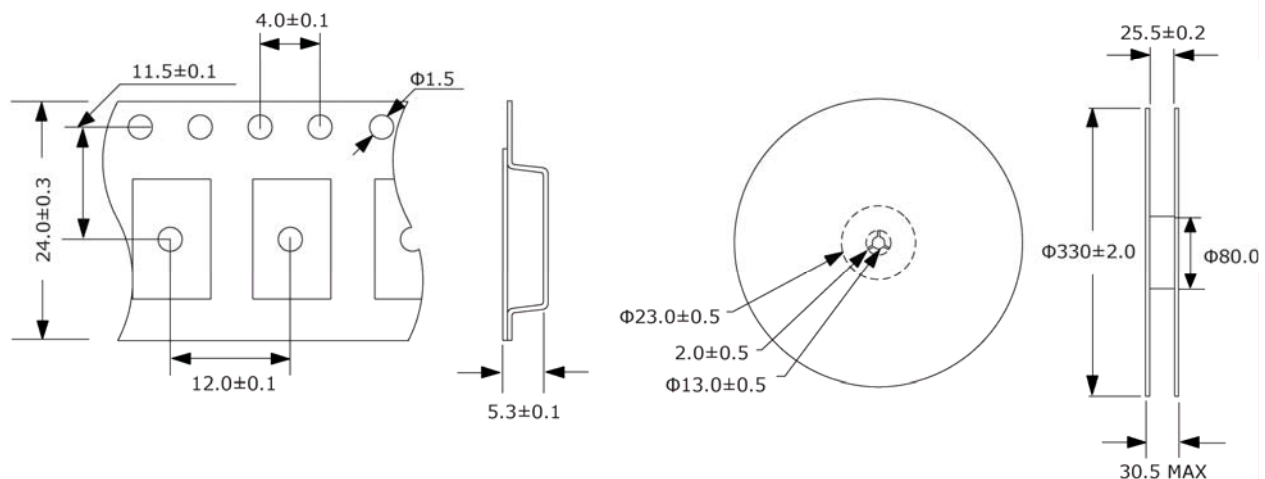
Line 1: X X.X X X
Line 2: S F Y W W

Suntsu Manufacturing Identifier

Week Year

TAPE AND REEL DIMENSIONS

500pcs/reel



NOTE: Dimensions in millimeters (mm); drawing is not to scale.

上海馥莱电子有限公司:

地址: 上海市普陀区中山北路 2911 号中关村科技大厦 1206 室

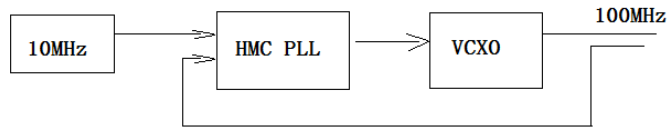
Tel: 021-5291 8556, Fax: 021-6260 7783

www.fulai-elec.com

Email: sales@fulai-elec.com

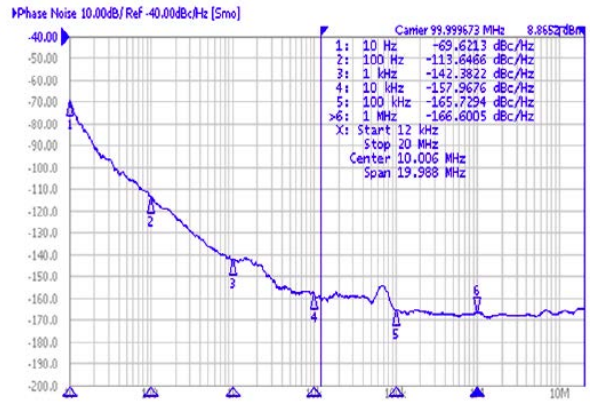
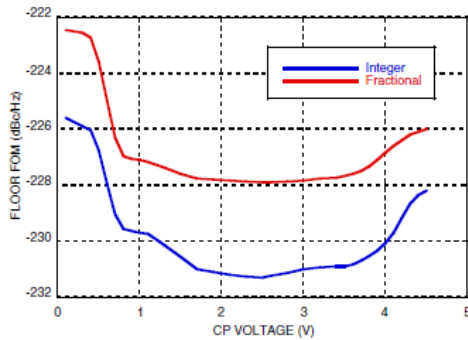
超低相噪 VCXO 在二次锁相的应用

在对稳定度要求很高的场合，100MHz OCXO 成本很高，采用 10MHz 参考和 VCXO 二次锁频方案，成本可以降低到原来的四分之一。



1. OCXO: 同样稳定度（比如 10ppb）产品，10MHz 价格比 100MHz 低很多；
2. PLL: Hittite/ADI 相噪最低的锁相环芯片。
Figure of Merit , -231 dBc/Hz Integer Mode

Figure 10. Floor FOM vs. CP Voltage, CP Current = 2.5 mA [1]



开环的 VCXO 相噪

3. VCXO: Suntsu SVCF4C3C48C-100MHz, -142dBc/Hz @ 1kHz
供电电压 3.3V, Vctrl 控制电压 0-3.3V, 封装 14x8.7mm。
采用锁相环电路后，整个电路的频率稳定度由 OCXO 决定，跟 VCXO 本身的稳定度无关。

