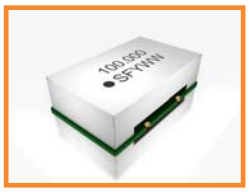
SVCF4C SERIES

14.3mm x 8.7mm FR4 PCB 4 PAD VCXO

FEATURES	APPLICATIONS
- ±25ppm (Frequency Stability) Available - Ultra-Low Phase Noise and Jitter Performance - High-Q Crystal and 3rd Overtone Technology - RoHS Compliant - Tape and Reel	- High Definition TV - Avionics - Low Phase Signal Sources - Test and Measurement Equipment



PART NUMBERING GUIDE

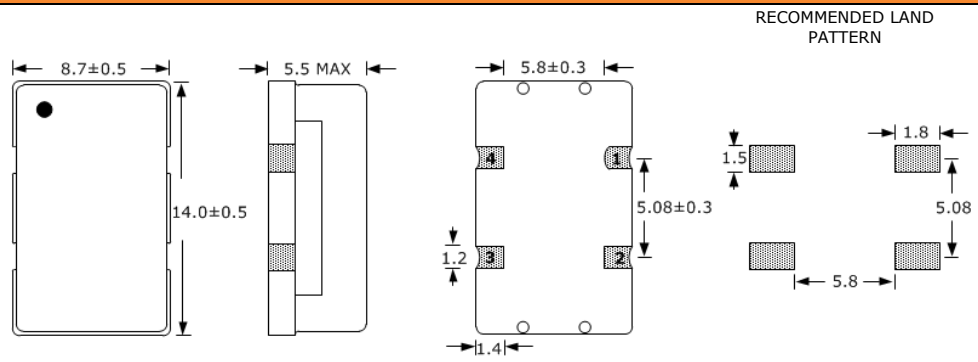
SVC F4 C 3 A 48 B - 100.000M

- **SUNTSU VCXO**
- **FR4 PCB 4 PAD**
- **CMOS**
- **SUPPLY VOLTAGE**
  3: 3.3V±5%
- **FREQUENCY STABILITY**
  A: ±50ppm
  B: ±30ppm
  C: ±25ppm
  *D: ±20ppm
- **PULLABILITY**
  B: ±100ppm
  C: ±50ppm
- **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
- **FREQUENCY (MHz)**

Cage Code: 4GUT4
To customize your parameters contact a Suntsu representative.
*For frequency stability D option contact a Suntsu representative.

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		ºC	-40		+85	See part numbering guide for options.
Storage Temperature		ºC	-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 @ +25ºC.
Phase Jitter (12kHz ~ 20MHz)		ps		0.1		

OUTLINE DRAWING



PIN	FUNCTION
1	VOLTAGE CONTROL
2	GND
3	OUTPUT
4	V_{DD}

NOTE: Dimensions in millimeters (mm).

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REV. 02/13/13

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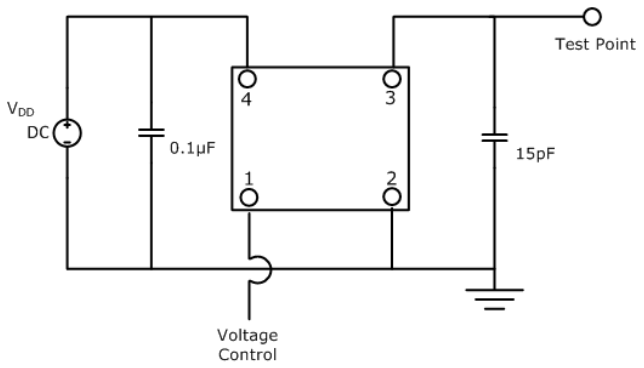
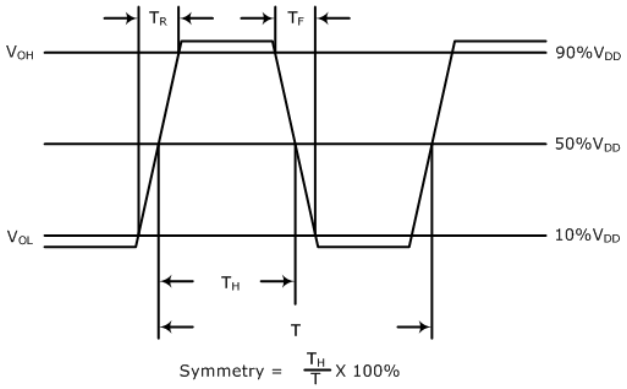
TEST CIRCUIT (CMOS)



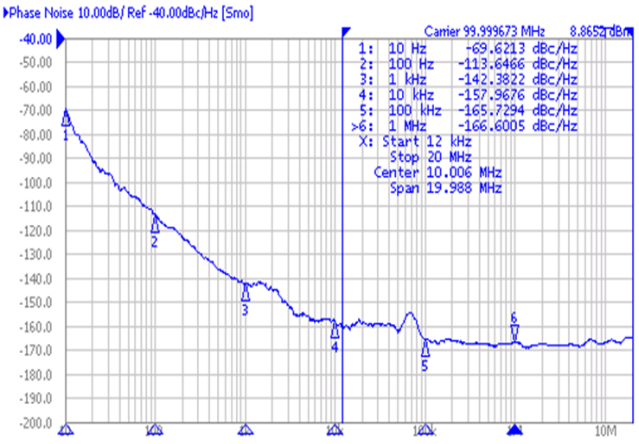
WAVEFORM (CMOS)



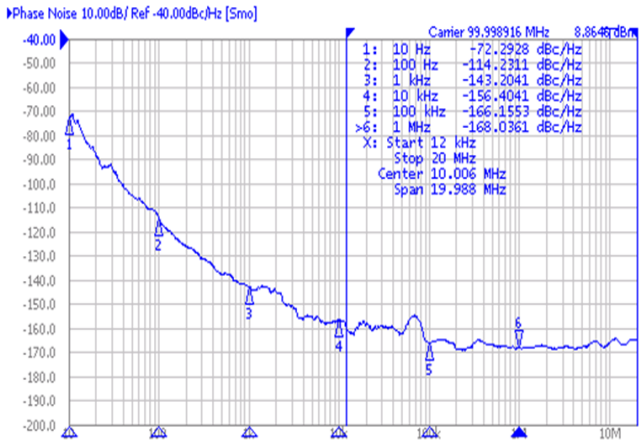
Symmetry = $\frac{T_H}{T}$ X 100%

TYPICAL PHASE NOISE PERFORMANCE (MEASURED BY AGILENT E5052A)

Frequency 100.000MHz

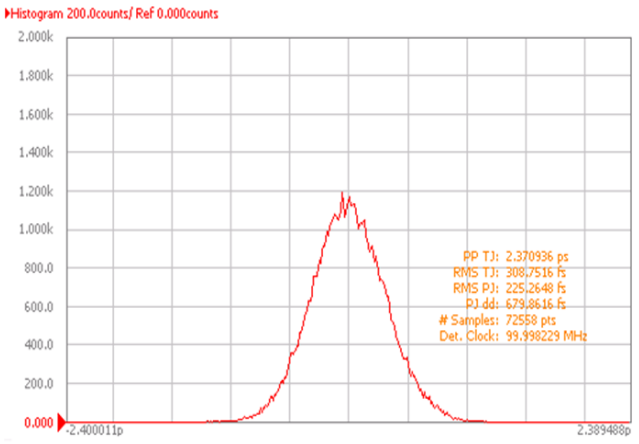


Frequency 100.000MHz

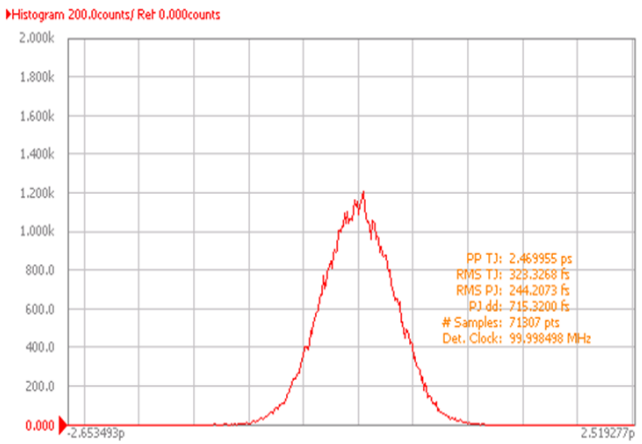


TYPICAL JITTER PERFORMACE (MEASURED BY AGILENT E5052A)

Frequency 100.000MHz

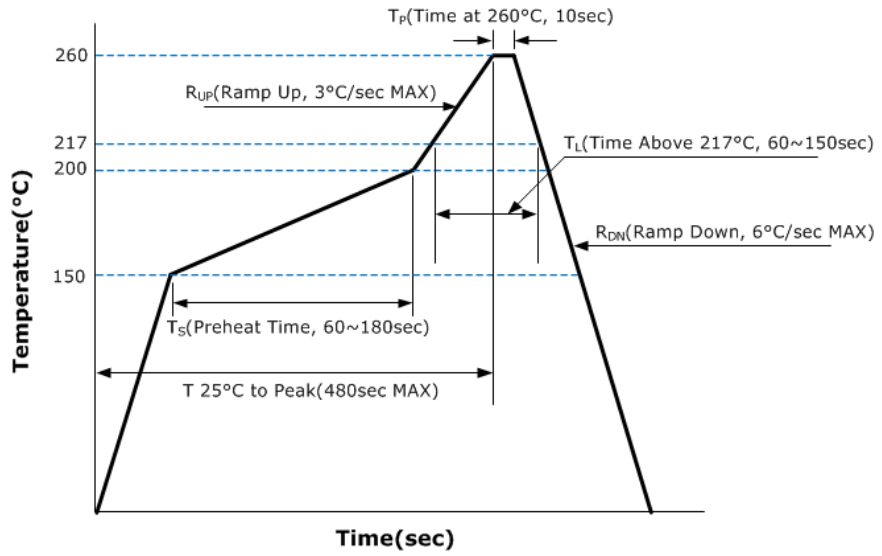


Frequency 100.000MHz

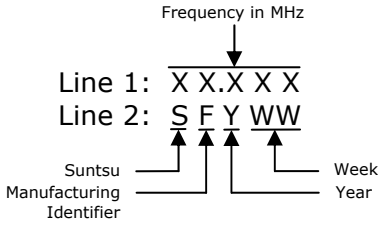


ENVIRONMENTAL & MECHANICAL SPECIFICATIONS	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Vibration	MIL-STD-883, Method 2007, Condition 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

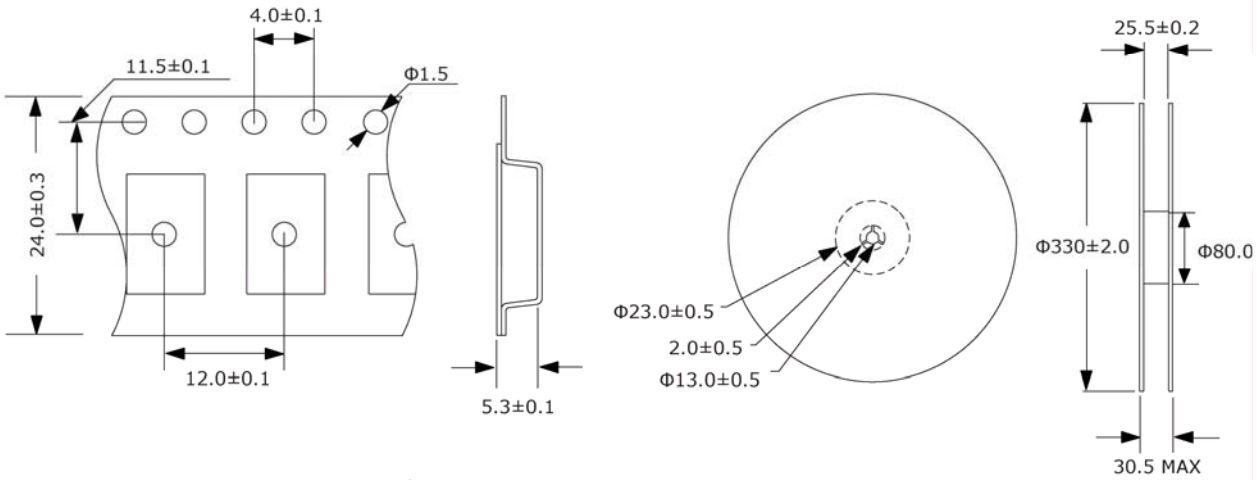


MARKING



TAPE AND REEL DIMENSIONS

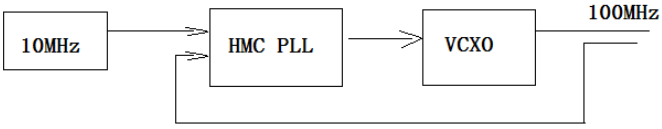
500pcs/reel



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

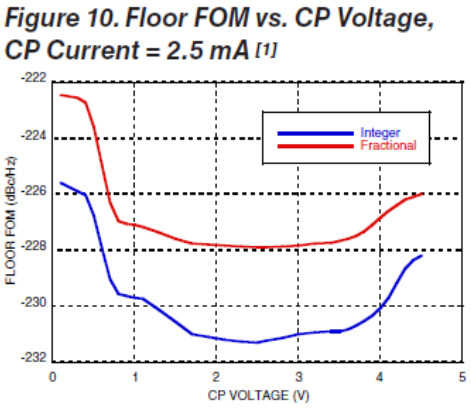
超低相噪 VCXO 在二次锁相的应用

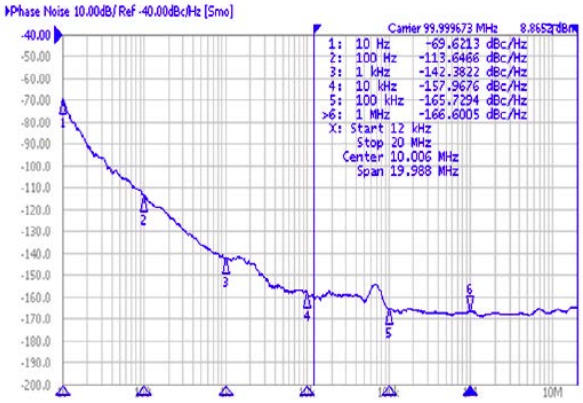
在对稳定度要求很高的场合，100MHz OCXO 成本很高，采用 10MHz 参考和 VCXO 二次锁频方案，成本可以降低到原来的四分之一。



1. OCXO: 同样稳定度（比如 10ppb）产品，10MHz 价格比 100MHz 低很多；

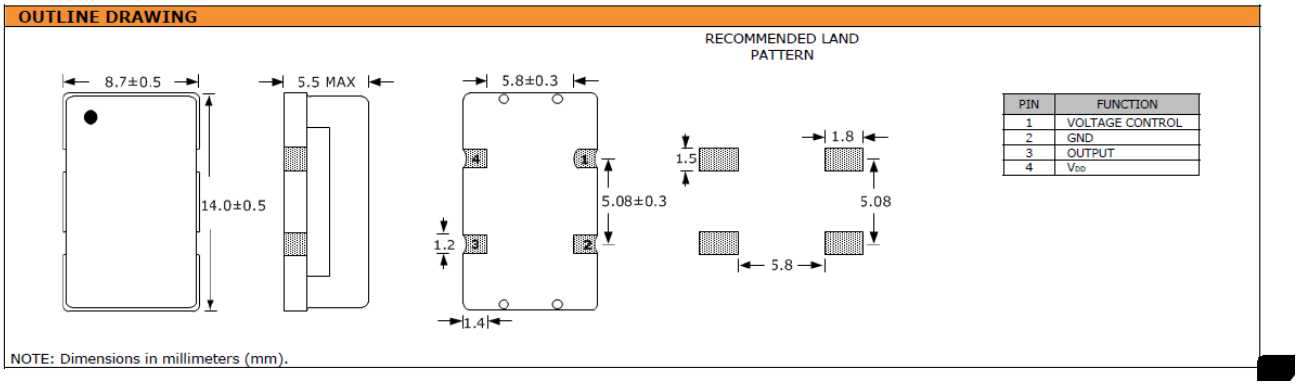
2. PLL: Hittite/ADI 相噪最低的锁相环芯片.
   Figure of Merit ， -231 dBc/Hz Integer Mode





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。



更多信息，请联系我们：
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