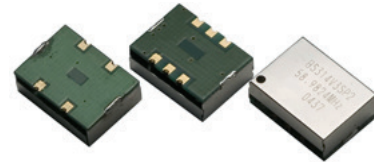


SP2CV HCMOS SURFACE MOUNT VOLTAGE CONTROLLED CRYSTAL CLOCK OSCILLATOR

FEATURES

14.3 x 8.7 x 5.5 mm



- PCB based package with metal lid
- Low Phase Noise < 200 MHz
- Tight Tolerances, wide pulling ranges
- 4 pad or 6 pad version
- Applications: Base stations, Test equipment, Synthesizers

Item	Specification	
Frequency Range	1.0 kHz ~ 800.0 MHz	
Standard Frequencies	2.048 - 10 - 20 - 24.705 - 30.720 - 32.768 - 50 - 61.44 MHz 76.8 - 77.760 - 81.92 - 100 - 125 - 150 - 155.52 - 156.25 MHz	
Output Logic	CMOS	
Overall Frequency Stability *	± 15 ppm ~ ± 100 ppm (see options)	
Operating Temperature Range	0 ~ +70°C commercial application (see options) -40 ~ +85°C industrial application (see options)	
Supply Voltage Vdd	+3.3 V ±5%	+5.0 V ±5%
Control Voltage Center	+1.65 V	+2.50 V
Control Voltage Range	0.15 V to 3.15 V	0.0 V to 5.0 V
Supply Current Idd	1.000 kHz: 15 mA max 40.000 MHz: 30 mA max 800.000 MHz: 100 mA max	
Output Level	VOH ≥ 0.9 Vdd	VOL ≤ 0.1 Vdd
Output Load	15pF	
Symmetry	45 / 55%	
Rise Time / Fall Time Fr/Ff	10 ns max (1.0 MHz ~9.99 MHz)	
Tri-state function (only for 6-pad version)	pin #1 or pin #2 = high or open pin #1 or pin #2 = low	pin #4 ==> oscillation pin #4 ==> high impedance
Start-up Time	10 ms max.	
RMS Jitter (12 kHz to 20 MHz band)	< 200 MHz : 1 ps max. > 200 MHz : 2.0 ps typ. , 4.0 ps max (PLL design)	
Frequency Pulling Range	±50 ppm min.; ±100 ppm min.; ±150 ppm min.; ±200 ppm min. (See options)	
Linearity	6% typical; 10% max.	
Slope Polarity	Positive (Increasing control voltage always increases output frequency)	
Modulation Bandwidth	10 kHz min (-3 dB)	
Input Impedance	1 MΩ min.	
Packing Unit	800 pcs / reel	
Soldering Condition	260°C , 10 sec x2 max	
	Customer specifications on request	

(*) Includes initial tolerance @+25°C, stability over operating temperature, stability vs. load change, stability vs. supply change and one year aging

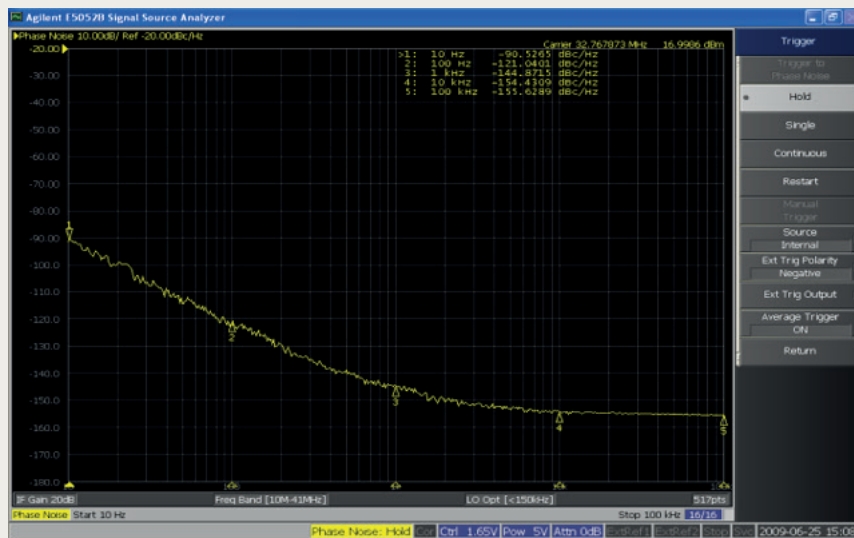
OPTIONS & ORDERING INFORMATION

SP2CV

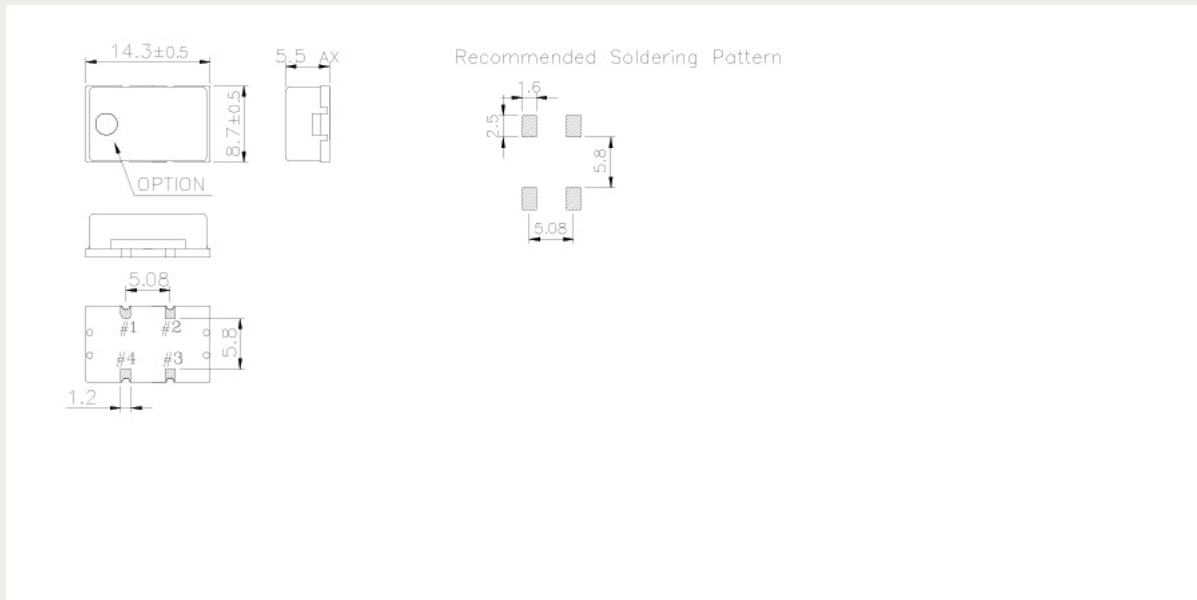
Supply Voltage	Operating Temp. *	Overall Stability *	Tri-state Function	Package type	Pulling *	Frequency in MHz
33 = +3.3 V	A = 0° / +50°C	15 = ±15 ppm	E1 = Tri-state, pin #1	4P = 4-pad version	50 = ±50 ppm min.	Please specify the frequency in MHz
50 = +5.0V	D = -10° / +60°C	20 = ±20 ppm	E2 = Tri-state, pin #2	6P = 6-pad version	100 = ±100 ppm min.	
	E = 0° / +70°C	25 = ±25 ppm	F = No Tri-state		150 = ±150 ppm min.	
	F = -20° / +70°C	30 = ±30 ppm			200 = ±200 ppm min.	
	G = -30° / +75°C	50 = ±50 ppm			250 = ±250 ppm min.	
	H = -30° / +85°C	100 = ±100 ppm				
	K = -40° / +85°C					

(*) Note : Not all combinations are possible , please consult us.

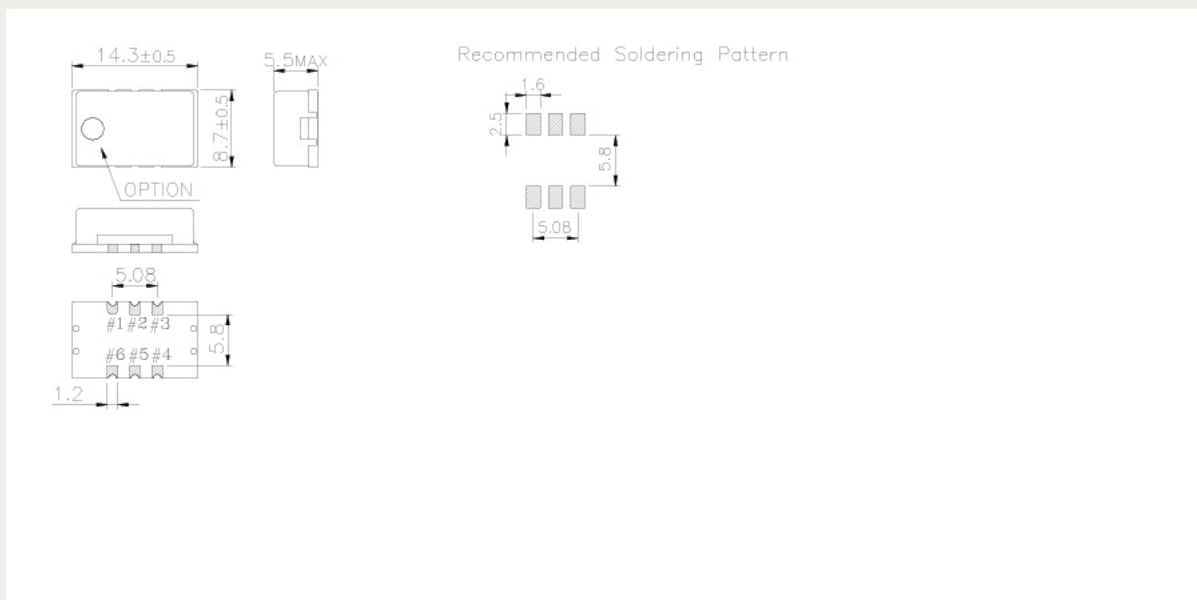
PHASE NOISE (32.768 MHz)



OUTLINE DIMENSIONS



Pin Connections #1 : Control Voltage #2 : GND #3: Output #4 : Vdd



Pin Connections #1 : Control Voltage or E/D #2 : Control Voltage or E/D #3 : GND #4: Output #5 : NC #6 : Vdd