

SP2EV LVPECL VOLTAGE CONTROLLED SURFACE MOUNT CRYSTAL CLOCK OSCILLATOR

FEATURES

- SMD package with metal lid
- Reduced jitter design without PLL and multiplier circuit
- Superior phase noise
- Wide pulling range
- Applications: SONET, xDSL, SDH, Set-top box, ...

14.3 x 8.7 x 5.5 mm



Item	Specification		
Frequency Range	0.75 MHz ~ 800 MHz		
Standard Frequencies	76.8 ; 77.760 ; 81.92 ; 100 ; 122.880 ; 125 ; 150 ; 155.52 ; 156.25 MHz 184.32 ; 245.76 ; 250 ; 300 ; 311.04 ; 312.5 ; 320 ; 340 ; 400 ; 491.520 ; 622.080 MHz		
Output Logic	LVPECL		
Overall Frequency Stability *	± 20 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%		
Supply Voltage Center	+1.65 V		
Control Voltage Range	0.0 V to 3.3 V		
Supply Current Idd	90 mA max.		
Output Voltage HIGH VOH	Vdd -1.025 V min. ; Vdd -0.95 V typ. ; Vdd -0.88 V max		
Output Voltage LOW VOL	Vdd -1.810 V min. ; Vdd -1.70 V typ. ; Vdd -1.62 V max		
Output Load	50 ohm to Vdd-2V		
Symmetry	45 / 55 %		
Rise Time / Fall Time Fr / Ff	0.3 ns typ. ; 1.0 ns max.		
Tri-state Function	E1 - E2 (See options)	pin #1 or pin #2 = high or open pin #1 or pin #2 = low	pin #4 - pin#5 ==> oscillation pin #4 - pin#5 ==> high impedance
	E3 - E4 (See options)	pin #1 or pin #2 = low or open pin #1 or pin #2 = high	pin #4 - pin#5 ==> oscillation pin #4 - pin#5 ==> high impedance
Start-up Time	3 ms typ. ; 10 ms max.		
Integrated Phase Jitter (12 kHz to 20 MHz band)	1 ps max.		
Phase Noise (typical)	Offset	Frequency 122.880 MHz	Frequency 622.080 MHz
	10 Hz	-73 dBc / Hz	-64 dBc / Hz
	100 Hz	-100 dBc / Hz	-100 dBc / Hz
	1 kHz	-125 dBc / Hz	-132 dBc / Hz
	10kHz	-145 dBc / Hz	-138 dBc / Hz
	100 kHz	-150 dBc / Hz	-140 dBc / Hz
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	800pcs / 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

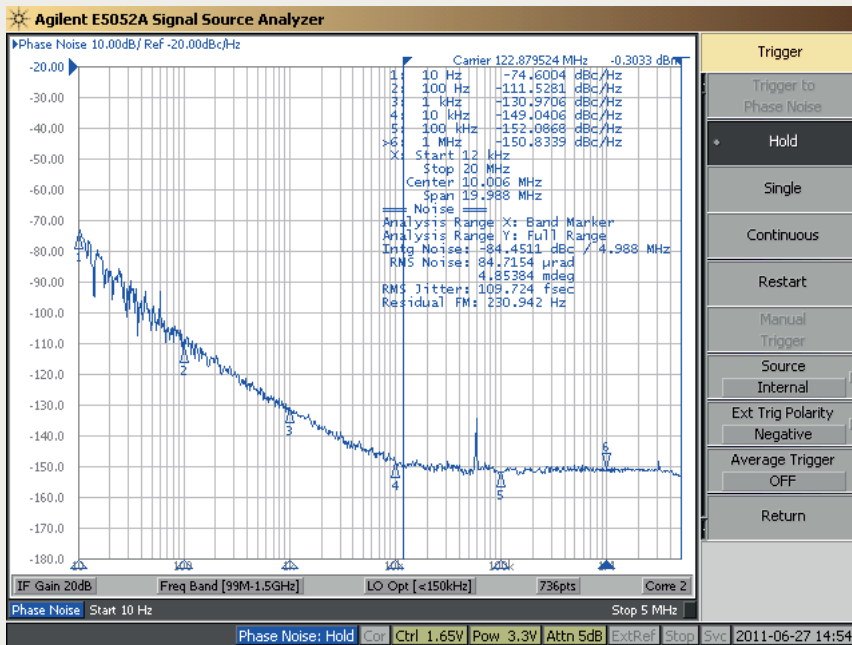
OPTIONS & ORDERING INFORMATION

SP2EV

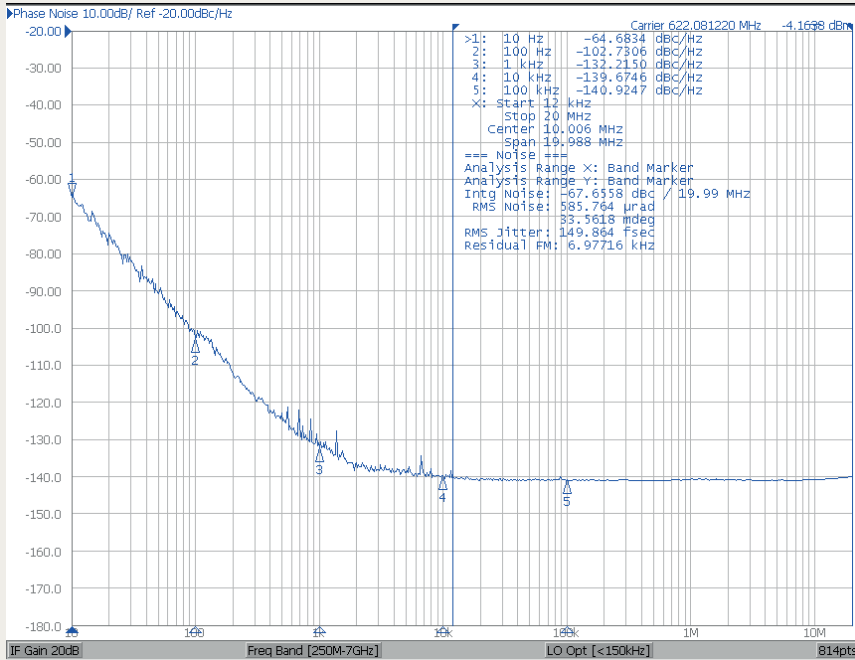
Supply Voltage	Operating Temp. *	Overall Stability *	Tri-state Function	Package type	Pulling *	Frequency in MHz
33 = +3.3 V	C = 0° / +50°C D = -10° / +60°C E = 0° / +70°C F = -20° / +70°C G = -30° / +75°C H = -30° / +85°C K = -40° / +85°C	20 = ±20 ppm 25 = ±25 ppm 30 = ±30 ppm 50 = ±50 ppm 100 = ±100 ppm	E1 = Tri-state, Enable High, pin #1 E2 = Tri-state, Enable High, pin #2 E3 = Tri-state, Enable Low, pin #1 E4 = Tri-state, Enable Low, pin #2	6P = 6-pad version	50 = ±50 ppm min. 100 = ±100 ppm min. 150 = ±150 ppm min. 200 = ±200 ppm min. 250 = ±250 ppm min.	Please specify the frequency in MHz

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

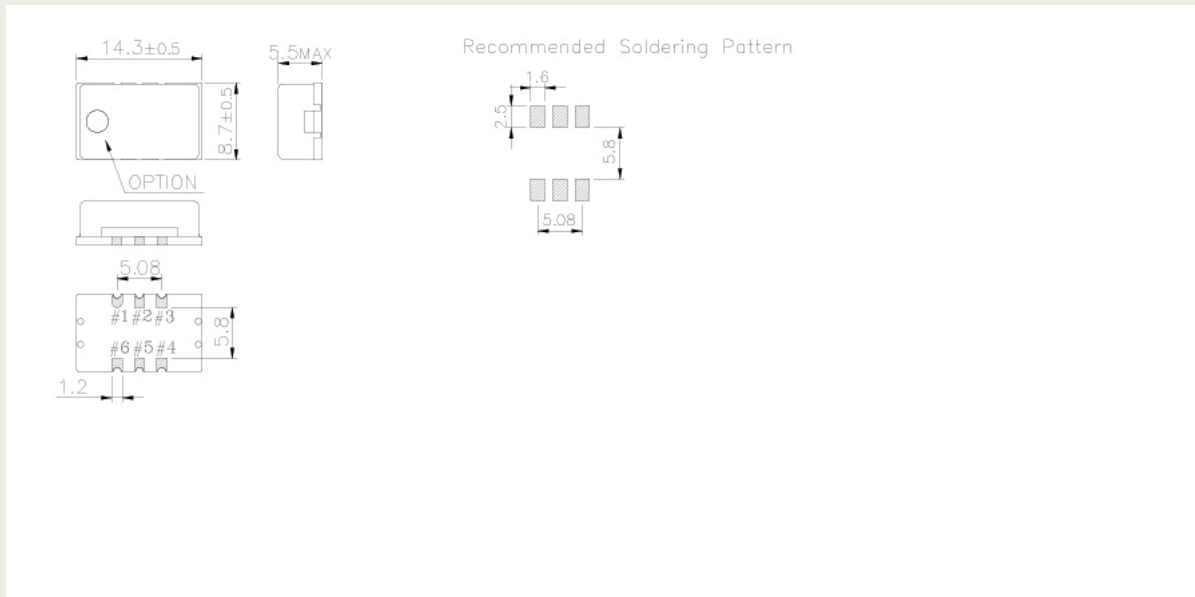
PHASE NOISE (122.880 MHz)



PHASE NOISE (622.080 MHZ)



OUTLINE DIMENSIONS



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