

SP2E

LVPECL SURFACE MOUNT CRYSTAL CLOCK OSCILLATOR

FEATURES

14.3 x 8.7 x 5.5 mm

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



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	+3.3V ±5%		
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 #2 = high or open pin #1 or #2 = low	pin #4 - #5 ==> oscillation pin #4 - #5 ==> high impedance
	E3 - E4 (see options)	pin #1 or #2 = low or open pin #1 or #2 = high	pin #4 - #5 ==> oscillation pin #4 - #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
	10 kHz	-145 dBc / Hz	-138 dBc / Hz
	100 kHz	-150 dBc / Hz	-140 dBc / Hz
Packing Unit	800pcs / reel		
Soldering Condition	260°C , 10 sec x2 max		
	Customer specifications on request		

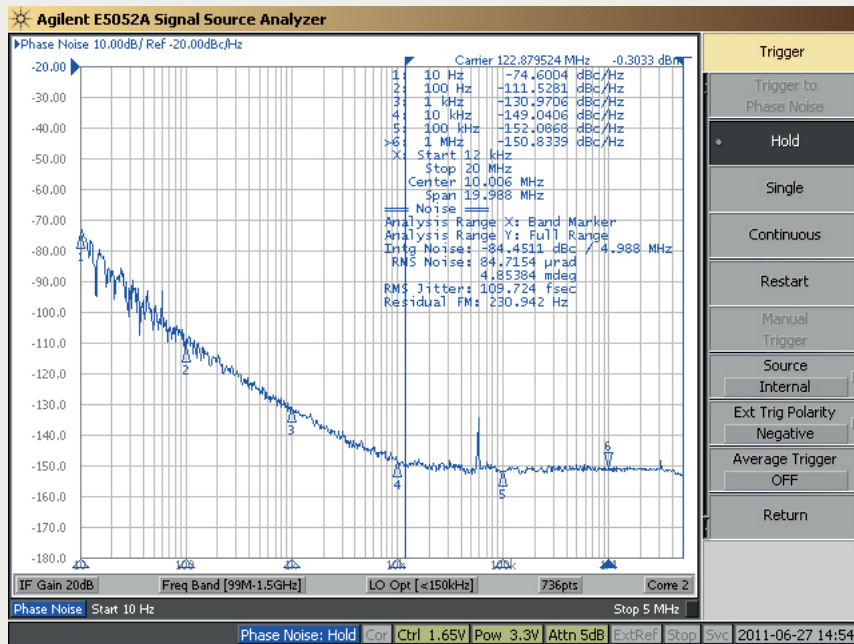
(*) Includes initial tolerance @+25°C, stability over operating temperature, stability vs. load change, stability vs. supply change and one year aging.

OPTIONS & ORDERING INFORMATION

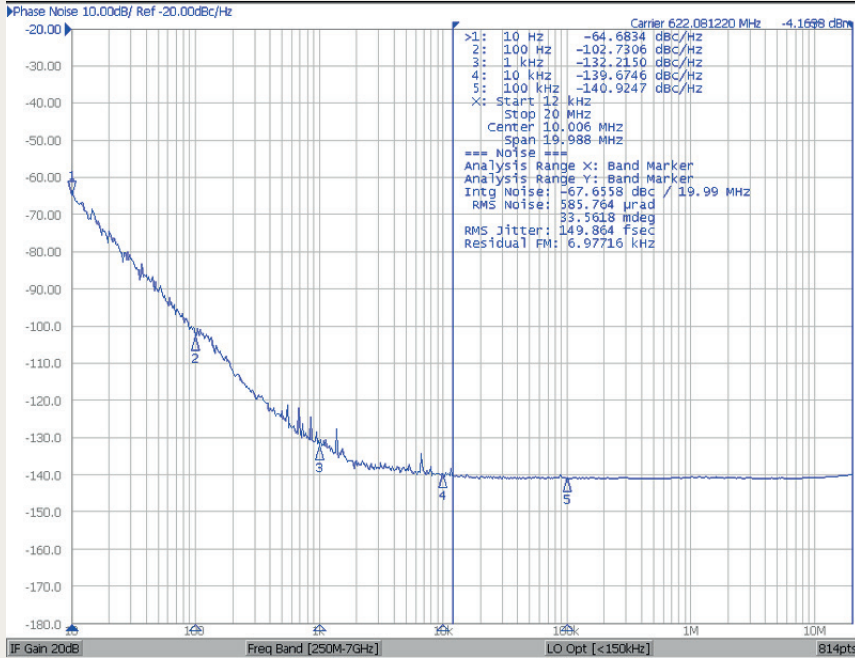
SP2E				
Supply Voltage	Operating Temp. *	Overall Stability *	Tri-state Function	Frequency in MHz
33 = +3.3V	C = 0°/+50°C D = -10°/+60°C E = 0°/+70°C F = -20°/+70°C G = -30°/+75°C H = -30°/+85°C K = -40°/+85°C	20 = ±20 ppm 25 = ±25 ppm 30 = ±30 ppm 50 = ±50 ppm 100 = ±100 ppm	E1 = Tri-state, Enable High, pin #1 E2 = Tri-state, Enable High, pin #2 E3 = Tri-state, Enable Low, pin #1 E4 = Tri-state, Enable Low, pin #2	Please specify the frequency in MHz

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

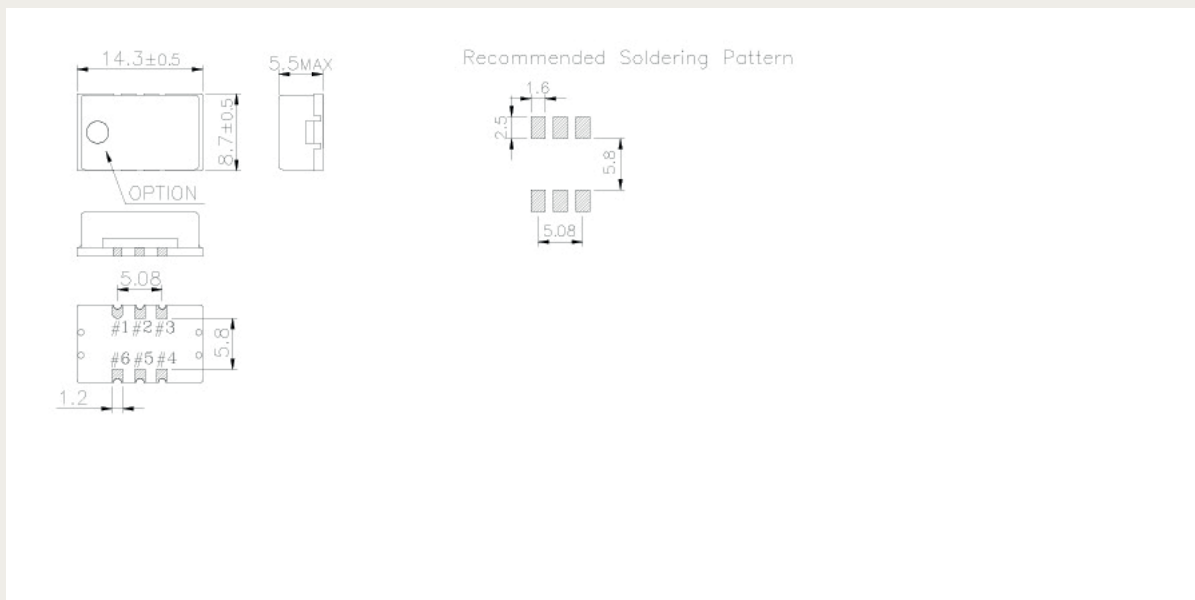
PHASE NOISE (122.880 MHz)



PHASE NOISE (622.080 MHz)



OUTLINE DIMENSIONS (mm)



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



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