

C9P: PLL LVPECL SERIES: ULTRA HF CLOCK OSCILLATOR, LVPECL, +3.3 VDC

DESCRIPTION: A crystal controlled, high frequency, highly stable oscillator, adhering to Low Voltage Differential Signaling (LVPECL) Standards. The output can be Tri-stated to facilitate testing or combined multiple clocks. The device is contained in a sub-miniature, very low profile, leadless ceramic SMD package with 6 gold contact pads. This miniature oscillator is ideal for today's automated assembly environments.

APPLICATIONS AND FEATURES:

- Infiniband; Fiber Channel; SATA; 10GbE; Network Processors; SOHO Routing; Switches;
- Common Frequencies: 150 MHz; 156.25 MHz; 155.52 MHz; 161.1328 MHz; 212.5MHz; 312.5MHz
- +3.3 VDC LVPECL
- Frequency Range from 750KHz to 800 MHz
- PLL multiplication (F>25MHz)
- Miniature Ceramic SMD Package Available on Tape and Reel
- Lead Free and ROHS Compliant

■ ABSOLUTE MAXIMUM RATINGS:

PARAMETER	SYMBOL	VALUE	UNIT
Operating temperature range	Ta	-40...+85	°C
Storage temperature range	T(stg)	-55...+90	°C
Supply voltage	Vcc	+4.6	VDC
Maximum Input Voltage	Vi	Vss-0.5...Vcc+0.5	VDC
Maximum Output Voltage	Vo	Vss-0.5...Vcc+0.5	VDC

■ ELECTRICAL PARAMETERS:

PARAMETER	SYMBOL	TEST CONDITIONS ^{*1}	VALUE	UNIT
Nominal Frequency	fo		0.75~ 800.00**	MHz
Supply Voltage	Vcc		+3.3 ±5%	VDC
Supply Current	Is		100.0 MAX	mA
Output Logic Type			LVPECL	
Load		Connected between each output and Vcc – 2.0 VDC	50	Ω
Output Voltage Levels	Voh Vol	min max	Vcc-1.025 Vcc-1.620	VDC VDC
Duty Cycle	DC	Measured at 50% of Vcc	40/60 to 60/40 or 45/55 to 55/45	%
Rise / Fall Time	tr / tf	Measured at 20/80% and 80/20% Vcc Levels	0.7 TYP 1.0 MAX ^{*2}	ns
Jitter	J	Integrated Phase tji RMS, Fj = 12 kHz...20 MHz ⁵	Fo=155.52MHz 2.6 TYP**	ps
			Fo=622.08MHz 2.5 TYP**	
		Random period Jitter Rj using wavecrest analyzer ⁴	Fo=155.52MHz. 4 TYP **	ps
			Fo=622.08MHz 6 TYP **	
		Acumm. Peak to Peak Jitter Tp-p using wavecrest analyzer ^{*4}	Fo=155.52MHz. 30 TYP**	ps
			Fo=622.08MHz 40 TYP**	
Phase Noise	£(Δf)	typ. @155.52MHz ⁶	Δf=10 Hz -60 Δf=100 Hz -90 Δf=1 KHz -120 Δf=10 KHz -125 Δf=100 KHz -121 Δf=1M Hz -121 Δf=10M Hz -140 Δf≥20M Hz -145	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz
Overall Frequency Stability	Δf/fc	Op. Temp., Aging, Load, Supply and Cal. Variations	±20, ±25, ±50, or ±100 MAX ^{*3}	ppm
Enable High Option; Pin 1 Output Enabled Output Disabled	En Dis	High Voltage or No Connect Ground	0.7•Vcc MIN 0.3•Vcc MAX	VDC VDC
Enable Low Option; Pin 1 Output Disabled Output Enabled	Dis En	High Voltage Ground or No Connect	0.7•Vcc MIN 0.3•Vcc MAX	VDC VDC

*1 Test Conditions Unless Stated Otherwise: Nominal Vcc, Nominal Load, +25 ±3°C

*2 Frequency Dependent

*3 Not All Stabilities Available With All Temperature Ranges—Please Consult Factory For Availability

*4 Measured with Wavecrest SIA-3000A 10,000, Cycles no filtering

*5 Calculated from Agilent 5500 phase noise measurements

*6 Measured with Agilent 5500

■ PART NUMBERING SYSTEM:

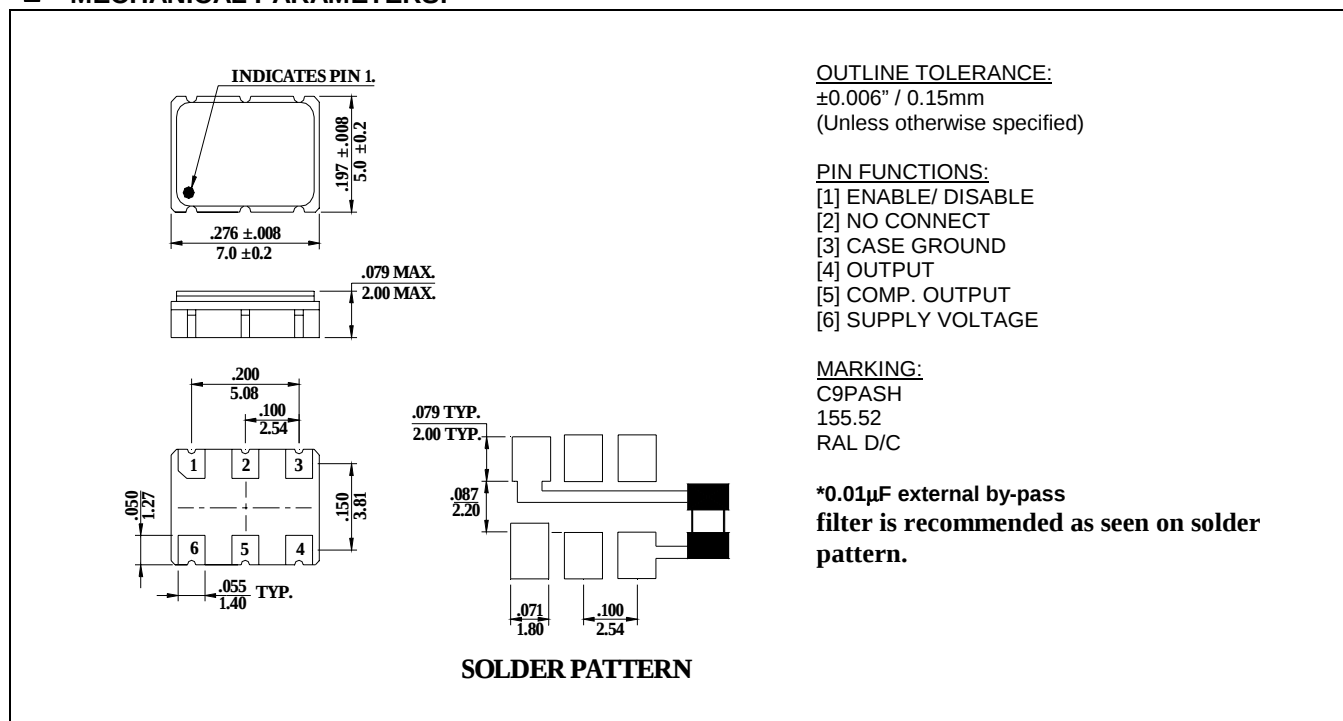
SERIES	SYMMETRY	TEMPERATURE RANGE (°C)	FREQUENCY STABILITY (Overall)	FREQUENCY (MHz)	Enable/Disable
C9P: UHF +3.3Vdc Clock with LVPECL Comp. Output	A: 40/60 to 60/40% T: 45/55 to 55/45%	R: 0...+50 S: 0...+70 U: -20...+70 V: -40...+85**	K: ±20 ppm** L: ±25 ppm H: ±50 ppm J: ±100 ppm	0.75...800.000	Enable High – standard (Omit Suffix) EL; Enable Low

EXAMPLE: -155.520

Clock Oscillator, 7x5mm Package, +3.3 VDC Supply Voltage, LVPECL Output, Standard Symmetry, 0...+70°C Operating Temperature Range, ±50 ppm Total Frequency Stability, 155.520 MHz

** ±20ppm stability may not be available at all combinations, please consult the factory for any custom requirements.

■ MECHANICAL PARAMETERS:



■ **REFLOW PROFILE:**