MPV5J Series

9x14 mm, 5.0 Volt, PECL/LVDS VCXO

- Integrated phase jitter of less than 1 ps from 12 kHz to 20 MHz
- Ideal for low noise PLL applications

Ordering Information

MPV5J 1 0 B 1 P J 00.0000 MHz

Product Series

Temperature Range
- **1:** 0°C to +70°C
- **2:** -40°C to +85°C
- **6:** -20°C to +70°C
- **8:** 0°C to +50°C

Stability
- **0:** Nominal per APR selection

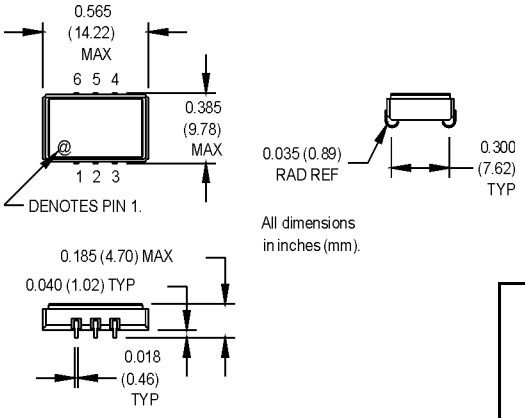
Output Type
- **B:** Complementary, Enable (Enable High)
- **S:** Complementary, Enable (Enable Low)
- **U:** Complementary Output

Absolute Pull Range
- **1:** ±50 ppm (±35 ppm typ. Stability)
- **8:** ±25 ppm (±50 ppm typ. Stability)

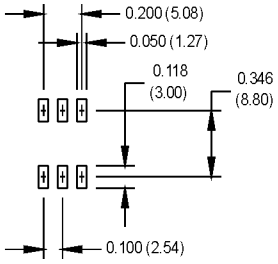
Symmetry/Output Logic Type
- **P:** 45/55% PECL
- **Q:** 40/60% PECL

Package/Lead Configurations
- **J:** J-Lead

Frequency (customer specified)



SUGGESTED SOLDER PAD LAYOUT



Pin Connections

PIN	FUNCTION
1	Control Voltage
2	Output Enable or N/C
3	Ground/Case
4	Output Q
5	Output $\overline{Q}$ or N/C
6	+Vcc

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	30 (Consult factory for exact frequency availability)		800	MHz	
	Frequency Stability	ΔF/F	(See Ordering Information)				See Note 1
	Operating Temperature	TA	(See Ordering Information)				
	Storage Temperature	Ts	-55		+125	°C	
	Input Voltage	Vcc	4.75	5.0	5.25	V	
	Input Current	Idd		60	70	mA	
	Symmetry (Duty Cycle)		(See Ordering Information)				
	Load						See Note 2
	Rise/Fall Time	Tr/Tf		.35	.55	ns	@ 20/80% LVPECL
				.50	1.0	ns	@ 20/80% LVDS
	Logic "1" Level	Voh	Vcc -1.02			V	
	Logic "0" Level	Vol			Vcc -1.63	V	
	Phase Jitter	ϕ J					
	@ 77.76 MHz			0.6	0.9	ps RMS	Integrated 12 kHz - 20 MHz
	@ 155.52 MHz			0.3	0.55	ps RMS	Integrated 12 kHz - 20 MHz
	@ 622.08 MHz			0.25	0.5	ps RMS	Integrated 12 kHz - 20 MHz
	Phase Noise (Typical)	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	Offset from carrier
	@ 77.76 MHz	-80	-110	-133	-144	-147	dBc/Hz
	@ 155.52 MHz	-80	-110	-133	-144	-147	dBc/Hz
	@ 622.08 MHz	-70	-100	-125	-135	-137	dBc/Hz
	Modulation Bandwidth	fm	10			Khz	-3 dB bandwidth
	Input Impedance	Zin	50			KΩ	
	Control Voltage	Vcc	0		5.0	V	Pin 1 voltage
	Center Frequency	Vc0		2.5		V	
	Linearity			5	10	%	
	Pullability	APR	(See Ordering Information)				See Note 3
	Enable/Disable Logic		CMOS high, Vcc or N/C - enables output CMOS low or GND - disables output				Output Option B
			PECL low, GND, or N/C - enables output PECL high - disables output				Output Option S
Environmental	Mechanical Shock		Per MIL-STD-202, Method 213, Condition C				
	Vibration		Per MIL-STD-202, Method 201 & 204				
	Reflow Solder Conditions		240°C for 10 s max., or 230°C for 90 s max.				
	Hermeticity		Per MIL-STD-202, Method 112 (1 x 10^{-8} atm.cc/s of helium)				
	Solderability		Per MIL-STD-883, Method 2003				

1. Stability given for deviation over temperature.
2. PECL load - see load circuit diagram #5.
3. APR specification inclusive of initial tolerance, deviation over temperature, shock, vibration, supply voltage, and aging.