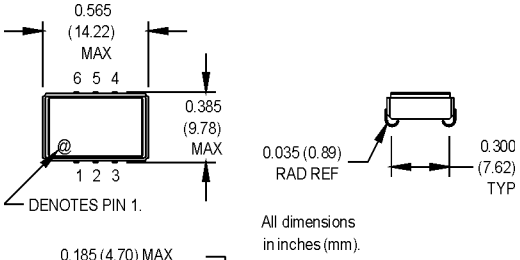
MPV3J Series
9x14 mm, 3.3 Volt, PECL/LVDS, VCXO

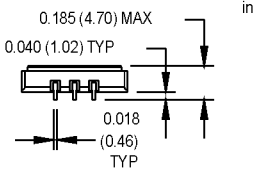
- Ultra low jitter VCXO approaching SAW jitter performance but with the temperature stability advantage of a crystal based resonator

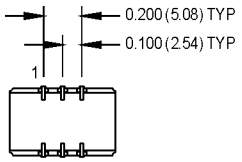
Ordering Information — **00.0000 MHz**

MPV3J 1 0 B 1 P J -R

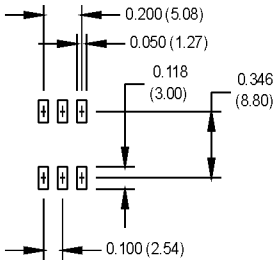
- **Product Series**
- **Temperature Range**
  - **1:** 0°C to +70°C
  - **2:** -40°C to +85°C
  - **6:** -20°C to +70°C
  - **8:** 0°C to +50°C
- **Stability**
  - **0:** Nominal per APR selection
- **Output Type**
  - **B:** Complementary, Enable (Enable High)
  - **S:** Complementary, Enable (Enable 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
- **RoHS Compliance**
  - **Blank:** non-RoHS compliant part
  - **-R:** RoHS compliant part
- **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

Electrical Specifications

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	30		800	MHz	See Note 1
Operating Temperature	TA	(See Ordering Information)				
Storage Temperature	TS	-55		+125	°C	
Frequency Stability	ΔF/F	(See Ordering Information)				See Note 2
Aging						
1st Year		-3/-5		+3/+5	ppm	< 52 MHz / ≥ 52 MHz
Thereafter (per year)		-1/-2		+1/+2	ppm	< 52 MHz / ≥ 52 MHz
Pullability/APR		(See Ordering Information)				See Note 3
Control Voltage	Vc	0	1.65	3.3	V	Pin 1 Voltage
Linearity			5	10	%	Positive Monotonic Slope
Modulation Bandwidth	fm	10			kHz	-3 dB bandwidth
Input Impedance	Zin	50k			Ohms	
Input Voltage	Vcc	3.135	3.3	3.465	V	
Input Current	Icc		60	70	MA	
Output Type						PECL/LVDS
Load						See Note 4
Symmetry (Duty Cycle)						Vcc – 1.3 VDC
Output Skew				200	ps	
Differential Voltage	Vo	250	350	450	mV	LVDS
Logic "1" Level	Voh	Vcc – 1.02			V	PECL
Logic "0" Level	Vol			Vcc – 1.63	V	PECL
Rise/Fall Time	Tr/Tf		0.35 0.50	0.55 1.0	ns Ns	@ 20/80% LVPECL @ 20/80% LVDS
Enable/Disable Logic		80% Vcc min or N/C: output active 20 % Vcc max: output disables to high-Z				Output Option B
		PECL low, GND, or N/C – output active PECL high – output disables to high-Z				Output Option S
Start up Time			5		ms	
Phase Jitter @ 155.52 MHz @ 622.08 MHz	ΦJ		 0.3 0.25	 0.55 0.5	 ps RMS ps RMS	 Integrated 12 kHz – 20 MHz Integrated 12 kHz – 20 MHz
Phase Noise (Typical) @ 155.52 MHz	**10 Hz** -50	**100 Hz** -80	**1 kHz** -115	**10 kHz** -135	**100 kHz** -140	**Offset from carrier** dBc/Hz

Note 1: Consult factory for exact frequency availability
Note 2: Stability given for deviation over temperature
Note 3: APR specification inclusive of initial tolerance, deviation over temperature, shock, vibration, supply voltage, and aging
Note 4: PECL load – see load circuit diagram #5. LVDS load – see load circuit diagram #9.

MtronPTI Lead Free Solder Profile