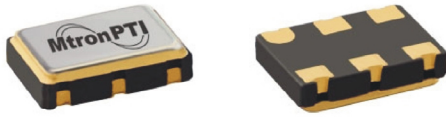
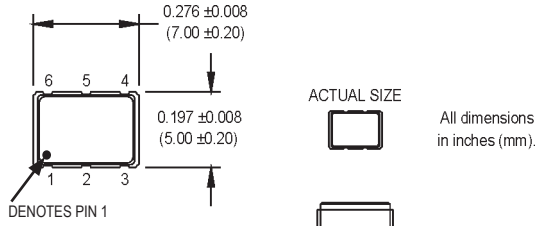


# MV3 & MV5 Series

## 5x7 mm, 3.3 or 5.0 Volt, HCMOS, VCXO



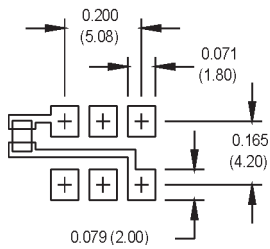
- General purpose VCXO with good performance at an affordable price



Ordering Information		00.0000 MHz
Product Series	MV3/MV5	1 3 V C N
Temperature Range	1: 0°C to +70°C 2: -40°C to +85°C 6: -20°C to +70°C	
Stability	3: ±100 ppm 6: ±25 ppm*	
Output Type	4: ±50 ppm 8: ±20 ppm*	
Symmetry/Logic Compatibility	V: Voltage Controlled - no tristate T: Voltage Controlled - tristate	
Package/Lead Configurations	C: 45/55 CMOS G: 40/60 CMOS	
Frequency (customer specified)		

\*Consult Factory for availability  
M3006Sxxx & M3008Sxxx - Contact factory for datasheets.

SUGGESTED SOLDER PAD LAYOUT



### Pin Connections

PIN	FUNCTION
1	Control Voltage
2	N/C or Tristate
3	Ground
4	Output
5	N/C
6	+Vdd

PARAMETER	Symbol	Min.	Typ.	Max	Units	Condition/Notes	
Frequency Range	F	1.544		167	MHz	MV3 See Note 4 MV5 See Note 4	
Operating Temperature	T <sub>A</sub>	(See ordering information)					
Storage Temperature	T <sub>S</sub>	-45		+95	°C		
Frequency Stability	ΔF/F	(See ordering information)					
Aging							
1 <sup>st</sup> Year		-3/-5		+3/+5	ppm	< 52 MHz / ≥ 52 MHz	
Thereafter (per year)		-1/-2		+1/+2	ppm	< 52 MHz / ≥ 52 MHz	
Pullability		±80			ppm	Over control voltage	
Control Voltage	V <sub>C</sub>	0.3	1.65	3.0	V	MV3	
		0.5	2.5	4.5	V	MV5	
Linearity				15	%	Positive Monotonic Slope	
Modulation Bandwidth	f <sub>m</sub>	10			kHz	-3 dB bandwidth	
Input Impedance	Z <sub>in</sub>	50k			Ohms		
Input Voltage	V <sub>DD</sub>	3.135	3.3	3.465	V	MV3	
		4.5	5.0	5.5	V	MV5	
Input Current	I <sub>DD</sub>						
1.544 to 36 MHz				20	mA	MV3	
36 to 167 MHz				50	mA	MV3	
1.544 to 50 MHz				35	MA	MV5	
Output Type						HCMOS	
Load				15	pF	See Note 1	
Symmetry (Duty Cycle)		(See ordering information)				50% V <sub>DD</sub> Level	
Logic "1" Level	V <sub>OH</sub>	90			% V <sub>DD</sub>	HCMOS load	
Logic "0" Level	V <sub>OL</sub>			10	% V <sub>DD</sub>	HCMOS load	
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>					See Note 2	
1.544 to 60 MHz				5	ns	MV3	
60 to 167 MHz				2	ns	MV3	
1.544 to 50 MHz				5	ns	MV5	
Tristate Function		Input Logic "1" or floating: output active Input Logic "0": output disables to high-Z					
Start up Time			4		ms		
Phase Jitter	Φ <sub>J</sub>					See Note 3	
20 - 45 MHz			0.5	1.0	ps RMS	Integrated 12 kHz - 20 MHz	
45 - 167 MHz			3.0	5.0	ps RMS	Integrated 12 kHz - 20 MHz	
Phase Noise (Typical)		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	Offset from carrier
@ 19.44 MHz		-70	-100	-132	-140	-150	dBc/Hz
Mechanical Shock		Per MIL-STD-202, Method 213, Condition C					
Vibration		Per MIL-STD-202, Method 201 & 204					
Max Soldering Conditions		See solder profile, Figure 1					
Hermeticity		Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium)					
Solderability		Per MIL-STD-883, Method 2003					

- HCMOS Load - See load circuit diagram #2.
- Rise/Fall times are measured between 10% V<sub>DD</sub> and 90% V<sub>DD</sub> with HCMOS load.
- Contact factory for non-standard jitter requirements.
- Contact factory for frequencies outside of the ranges shown.

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# MtronPTI Lead Free Solder Profile



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