CMV & CMV3 Series
5x7 mm, 5.0 or 3.3 Volt, CMOS, VCXO

- Former Champion Technologies, Inc. Product
- Phase-Locked Loops (PLL's), Clock Recovery, Reference Signal Tracking, Synthesizers, Frequency Modulation/ Demodulation

Ordering Information

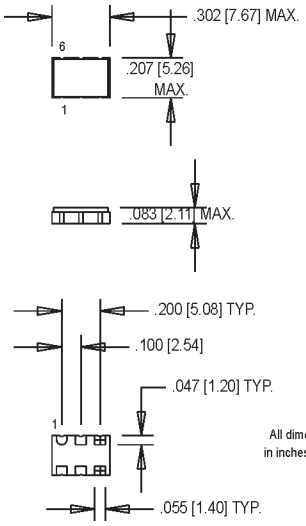
CMV/CMV3 X X 00.0000 MHz

Product Series
CMV = 5.0 Volt
CMV3 = 3.3 Volt

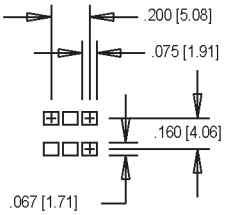
Symmetry/Logic Compatibility
Blank: 40%/60% CMOS
C: 45%/55% CMOS

Temperature Range
Blank: 0°C to +70°C
M: -40°C to +85°C

Frequency (customer specified)



SUGGESTED SOLDER PAD LAYOUT



Pin Connections

PIN	FUNCTION
1	Control Voltage
2	Tri-state
3	Ground & Gnd Plane
4	Output
5	N/C
6	+Vdd

M-tron Industries, Inc., PO Box 630, Yankton, SD 57078-0630, USA Phone: 605-665-9321 or 1-800-762-8800 Fax: 605-665-1709 Website: www.mtron.com
M-tron Industries Limited, 1104 Shanghai Industrial Investment Building, 48-62 Hennessy Road, Wanchai, Hong Kong, China Phone: 852-2866-8023 Fax: 852-2529-1822

CMV & CMV3 Series
5x7 mm, 5.0 or 3.3 Volt, CMOS, VCXO

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	**Frequency Range**	**F**	2		52	MHz	
	Frequency Stability:	**ΔF/F**					
	Overall		Inclusive of Calibration, Temperature, Voltage, Load, and Aging				
	0°C to +70°C			±25		ppm	
	-40°C to +85°C			±40		ppm	
	Pullability						
	2.000 to 45.000 MHz			±120		ppm	
	45.001 to 52.000 MHz			±90		ppm	
	Tuning Limit (0°C to +70°C)						
	2.000 to 45.000 MHz		±60			ppm	
	45.001 to 52.000 MHz		±50			ppm	
	Tuning Limit (-40°C to +85°C)						
	2.000 to 45.000 MHz		±50			ppm	
	45.001 to 52.000 MHz		±40			ppm	
	Linearity				5	%	
	Modulation Bandwidth	**fm**	>20			kHz	±3dB
	Control Voltage	**Vc**	0.5 0.3	2.5 1.65	4.5 3.0	V V	CMV CMV3
	Transfer Function		Positive				
	Input Impedance		>50KΩ				@ 10 kHz
	Operating Temperature	**TA**	-40		+85	°C	
	Storage Temperature	**Ts**	-55		+125	°C	
	Input Voltage	**Vdd**	4.5 3.0	5.0 3.3	5.5 3.6	V V	CMV CMV3
	Input Current	**Idd**			30	mA	
	Symmetry (Duty Cycle)		40		60	%	@ 50% Vdd
	Rise Time	**Tr**			5	ns	20% to 80% Vdd, CL=15pF
	Fall Time	**Tf**			5	ns	80% to 20% Vdd, CL=15pF
	Logic "1" Level	**Voh**	Vdd-0.5			V	
	Logic "0" Level	**Vol**			0.5	V	
	Start up Time				10	ms	
	Phase Noise (Typical)	**10 Hz** -65	**100 Hz** -95	**1 kHz** -115	**10 kHz** -130	**100 kHz** -140	Offset from carrier
Environmental	**Temperature Cycle**	MIL-STD-883, Method 1010, Condition B				-55°C to +125°C; Air-toAir; 100 cycles; 10 min. dwell	
	Mechanical Shock	MIL-STD-883, Method 2002, Condition B				1500 g's	
	Vibration	MIL-STD-883, Method 2007, Condition B				20-2000 Hz; 0.06 inch; 15 g's; 3 planes	
	Humidity Steady State	MIL-STD-202, Method 103				40°C; 90%-95% R.H.; 56 days	
	Thermal Shock	MIL-STD-883, Method 1011.7, Cond. B				100°C to 0°C; Water-to-Water; 15 cycles	
	Electrostatic Discharge	MIL-STD-883, Method 3015, Class II				2 KV to 4 KV Threshold	
	Solderability	MIL-STD-883, Method 2022.2				Solder dip; Meniscograph Criteria	
	Hermeticity	MIL-STD-883, Method 1014.8, Cond. A1				Mass spectro. 2 x 10-8 atoms. CC/sec He	
	Resistance to Soldering	See "Figure 2" on page 147					
	Lead Integrity	MIL-STD-883, Mtd. 2004.5, Cond. A,B1				Lead tension & bend stress	
	Marking Permanence	MIL-STD-883, Method 2015.8				Resistance to solvents	
	Life Test	MIL-STD-883, Method 1005.6				125°C, powered, 1000 hours minimum	

M-tron Industries, Inc., PO Box 630, Yankton, SD 57078-0630, USA Phone: 605-665-9321 or 1-800-762-8800 Fax: 605-665-1709 Website: www.mtron.com
M-tron Industries Limited, 1104 Shanghai Industrial Investment Building, 48-62 Hennessy Road, Wanchai, Hong Kong, China Phone: 852-2866-8023 Fax: 852-2529-1822