

# OBSOLETE



## MVS Series

9x14 mm, 5.0 Volt, HCMOS/TTL, VCXO

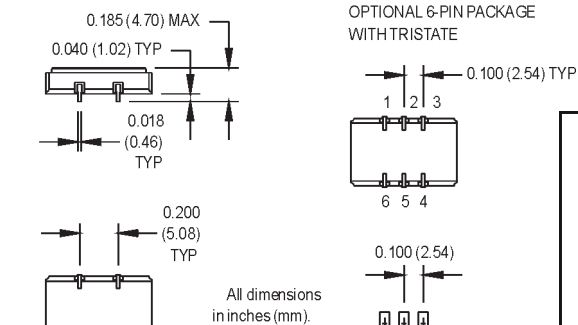
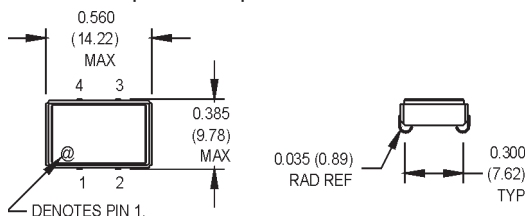


### Ordering Information

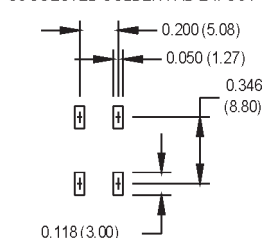
	MVS	1	3	V	2	C	J	-R	00.0000	MHz
<b>Product Series</b>										
<b>Temperature Range</b>	1: 0°C to +70°C		2: -40°C to +85°C							
	6: -20°C to +70°C									
<b>Stability</b>	1: ±1000 ppm		2: ±500 ppm							
	3: ±100 ppm		4: ±50 ppm							
	5: ±35 ppm		6: ±25 ppm							
	*8: ±20 ppm									
<b>Output Type</b>										
	V: Voltage Controlled					T: Tristate				
<b>Pull Range (Vc = .5 to 4.5 V)</b>										
	1: ±50 ppm min.									
	2: ±100 ppm min. (Up to 70.000 MHz)									
<b>Symmetry/Logic Compatibility</b>										
	A: 40/60 CMOS/TTL					C: 45/55 HCMOS				
<b>Package/Lead Configurations</b>										
	J: J Lead									
<b>RoHS Compliance</b>										
	Blank: non-RoHS compliant part									
	-R: RoHS compliant part									
	Frequency (customer specified)									

\*Contact factory for availability.  
M3001Sxxx - Contact factory for datasheet.

- General purpose VCXO for Phase Lock Loops (PLL), Clock Recovery, Reference Signal Tracking and Synthesizers
- Frequencies up to 160 MHz and tri-state option



### SUGGESTED SOLDER PAD LAY OUT



### Pin Connections

FUNCTION	4 Pin Pkg.	6 Pin Pkg.
Control Voltage	1	1
Tristate		2
Circuit/Case Ground	2	3
Output	3	4
N/C		5
+Vdd	4	6

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.544		160	MHz	See Note 1
Operating Temperature	T <sub>A</sub>	(See ordering information)				
Storage Temperature	T <sub>s</sub>	-55		+125	°C	
Frequency Stability	ΔF/F	(See ordering information)				
Aging						
1 <sup>st</sup> Year		-3/-5		+3/+5	ppm	<52 MHz / >=52MHz
Thereafter (per year)		-1/-2		+1/+2	ppm	<52 MHz / >=52MHz
Pullability/APR		(See ordering information)				
Control Voltage	V <sub>c</sub>	0.5	2.5	4.5	V	Over Control Voltage
Linearity				10	%	Positive Monotonic Slope
Modulation Bandwidth	F <sub>m</sub>	10			kHz	
Input Impedance	Z <sub>in</sub>	50k			Ohms	
Input Voltage	V <sub>dd</sub>	4.75	5.0	5.25	V	
Input Current	I <sub>dd</sub>		25	35	mA	1.544 to 24.999 MHz
			35	60	mA	25 to 99.999 MHz
			55	90	mA	70 to 160 MHz
Output Type						HCMOS/TTL
Load						See Note 2
1.544 to 45 MHz				10	TTL or 50 pF	
45.001 to 160 MHz				5	TTL or 30 pF	
Symmetry (Duty Cycle)		(See ordering information)				
Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub>			V	HCMOS Load
		V <sub>dd</sub> - 0.5			V	TTL Load
Logic "0" Level	V <sub>ol</sub>			10% V <sub>dd</sub>	V	HCMOS Load
				0.5	V	TTL Load
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>		3	10	ns	See Note 4
Tristate Function		Input Logic "1" or floating: output active				
		Input Logic "0": output disables to high-Z				
Start up Time				10	ms	
Phase Jitter @ 155.52 MHz	φ <sub>J</sub>		10	15	ps RMS	Integrated 12 kHz - 20 MHz
Phase Noise (Typical) @ 155.52 MHz		100 Hz	1 kHz	10 kHz	100 kHz	Offset from carrier
		-62	-93	-113	-114	dBc/Hz
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 mS duration, 1/2 sinewave)				
	Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)				
	Hermeticity	Per MIL-STD-202, Method 112, (1x10 <sup>-8</sup> atm. cc/s of Helium)				
	Solderability	Per EIAJ-STD-002				
	Max Soldering Conditions	See solder profile, Figure 1				

1. Frequencies above 90 MHz utilize a PLL design. Fundamental and PLL designs are available at other frequencies. Contact factory for availability.
2. TTL load - see load circuit diagram #1. HCMOS load - see load circuit diagram #2.
3. Symmetry is measured at 1.4 V with TTL load, and at 50% V<sub>dd</sub> with HCMOS load.
4. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V<sub>dd</sub> and 90% V<sub>dd</sub> with HCMOS load.

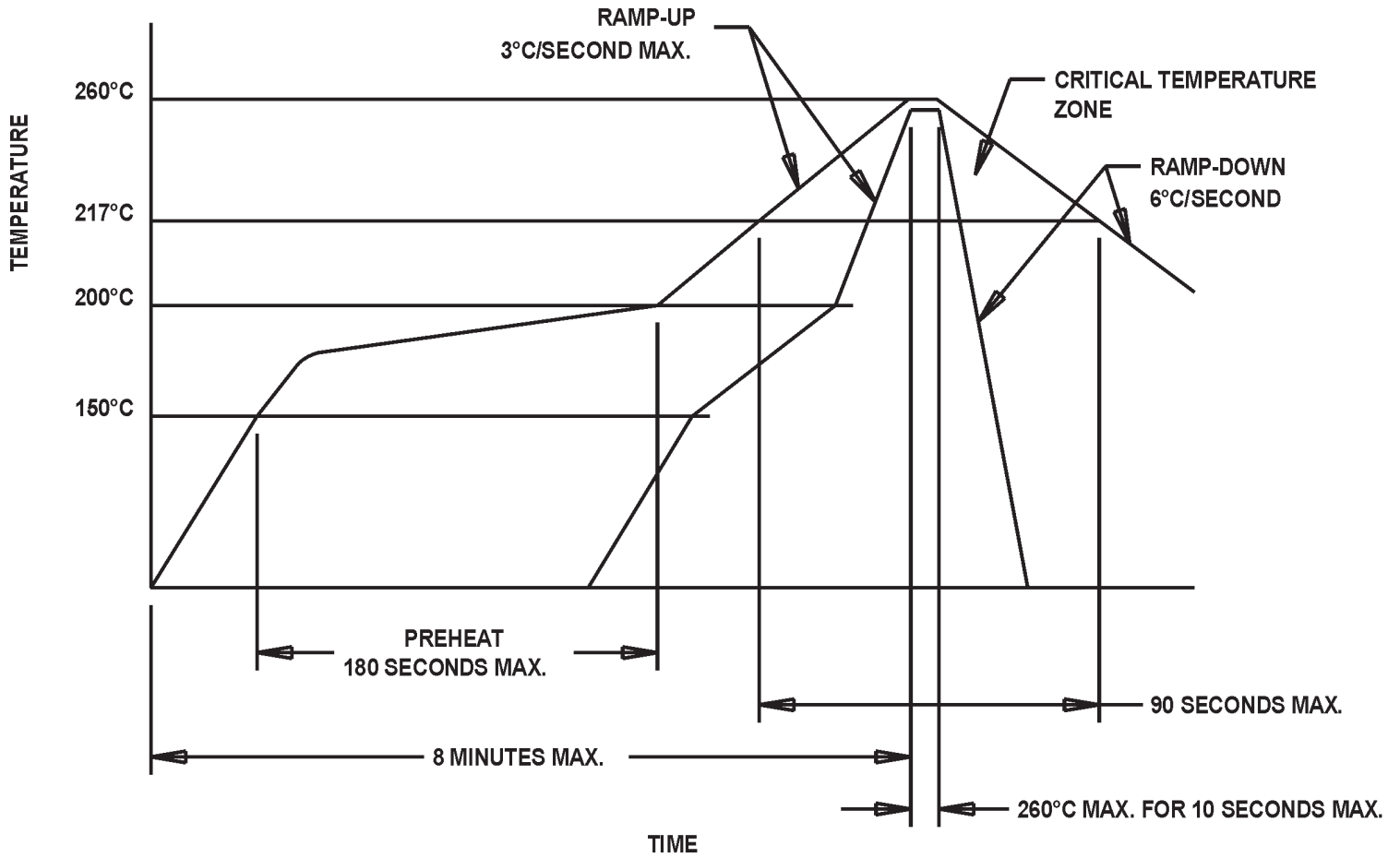
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# OBSOLETE



## MtronPTI Lead Free Solder Profile



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