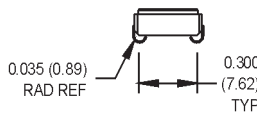
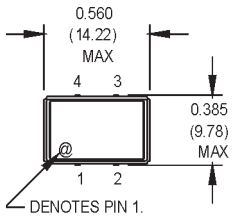


MVS Series

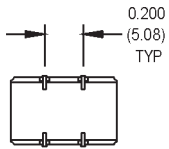
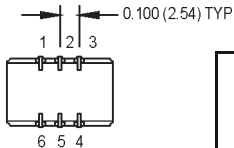
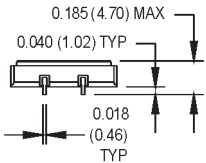
9x14 mm, 5.0 Volt, HCMOS/TTL, VCXO



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

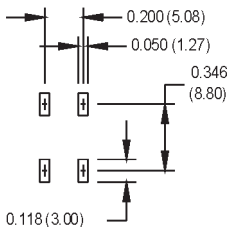


OPTIONAL 6-PIN PACKAGE WITH TRISTATE



All dimensions in inches (mm).

SUGGESTED SOLDER PAD LAYOUT



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

Ordering Information

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

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

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.544		160	MHz	See Note 1
Operating Temperature	T _A	(See ordering information)				
Storage Temperature	T _S	-55		+125	°C	
Frequency Stability	ΔF/F	(See ordering information)				
Aging						
1 st 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 _c	0.5	2.5	4.5	V	Over Control Voltage
Linearity				10	%	Positive Monotonic Slope
Modulation Bandwidth	F _m	10			kHz	
Input Impedance	Z _{in}	50k			Ohms	
Input Voltage	V _{dd}	4.75	5.0	5.25	V	
Input Current	I _{dd}		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 _{oh}	90% V _{dd}			V	HCMOS Load
	V _{oh}	V _{dd} - 0.5			V	TTL Load
Logic "0" Level	V _{ol}			10% V _{dd}	V	HCMOS Load
	V _{ol}			0.5	V	TTL Load
Rise/Fall Time	T _r /T _f		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 _J		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 dBc/Hz
		-62	-93	-113	-115	-114
Mechanical Shock		Per MIL-STD-202, Method 213, Condition C (100 g's, 6 mS duration, ½ sinewave)				
Vibration		Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)				
Hermeticity		Per MIL-STD-202, Method 112, (1x10 ⁻⁸ 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_{dd} with HCMOS load.
4. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V_{dd} and 90% V_{dd} with HCMOS load.

MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice. No liability is assumed as a result of their use or application.

Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

MtronPTI Lead Free Solder Profile

