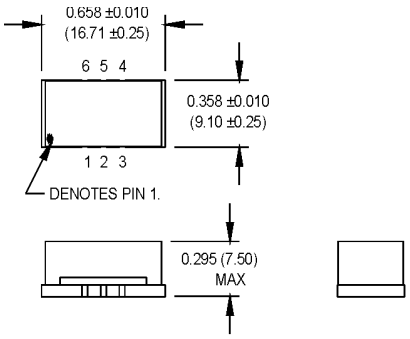
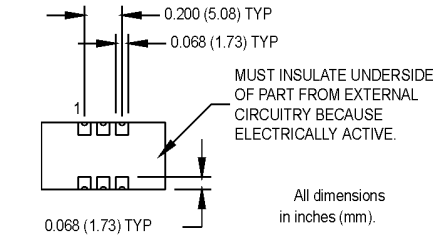
M5003 Series

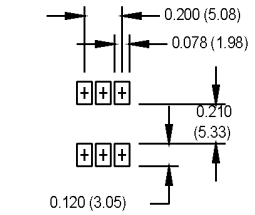
9x16 mm FR-4, 3.3 Volt, CMOS/TTL/PECL/LVDS, HPVCXO

- Ideal for applications requiring long term (20 year) all-inclusive stability





SUGGESTED SOLDER PAD LAYOUT



Pin Connections

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

Ordering Information

M5003 **2** **0** **R** **1** **P** **K** **-R** **00.0000 MHz**

Product Series

Temperature Range
- **1:** 0°C to +70°C
- **2:** -40°C to +85°C
- **6:** -20°C to +70°C
- **7:** 0°C to +85°C

Stability
- **0:** Nominal per APR selection

Output Type
- **R:** Complementary tri-state (PECL/LVDS)
- **T:** Tri-state (CMOS)

Absolute Pull Range (APR)
- **1:** ±25 ppm
- **2:** ±15 ppm

Symmetry/Logic Compatibility
- **D:** 45/55% CMOS/TTL
- **L:** 45/55% LVDS
- **P:** 45/55% PECL

Package/Lead Configurations
- **K:** FR-4, 6-Pad

RoHS Compliance
- **Blank:** non-RoHS compliant part
- **-R:** RoHS compliant part

Frequency (customer specified)

Electrical Specifications

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1		160	MHz	CMOS/TTL
		19.44		800	MHz	PECL/LVDS
Operating Temperature	TA	(See Ordering Information)				
Storage Temperature	Ts	-55		+105	°C	
Frequency Stability	ΔF/F	(See Ordering Information)				See Note 1
Aging						
1st Year				1.5	ppm	
Thereafter (per year)				0.5	ppm	
Pullability/APR		(See Ordering Information)				Over Control Voltage
Control Voltage	Vc	0.3	1.65	3.0	V	
Tuning Range				25	ppm/V	
Modulation Bandwidth	fm	10			kHz	
Input Impedance	Zin	50K			Ohms	
Input Voltage	Vcc/Vdd	3.15	3.3	3.45	V	
Input Current	Icc/Idd	5		50	mA	CMOS/TTL
		50		120	mA	PECL
		5		75	mA	LVDS
Output Type						CMOS/TTL/PECL/LVDS
Load		2 TTL or 15 pF Max.				CMOS/TTL
		50 Ohms to Vcc -2 Volts				PECL
		100 Ohm differential load				LVDS
Symmetry (Duty Cycle)		(See Ordering Information)				
Output Skew				50	ps	PECL
Differential Voltage		250	375	500	mV	LVDS
Logic "1" Level	Voh	2.5			V	CMOS/TTL
		2.2		2.4	V	PECL
		1.375			V	LVDS
Logic "0" Level	Vol			0.5	V	CMOS/TTL
		1.4		1.7	V	PECL
				1.125	V	LVDS
Rise/Fall Time	Tr/Tf	2.0		10	ns	CMOS/TTL
		0.25		3.0	ns	PECL/LVDS
Tristate Function		Input Logic "1": output active Input Logic "0": output disables				Opposite tristate logic Available upon request
Start up Time		10			ms	
Phase Noise (Typical)	**10 Hz**	**100 Hz**	**1 kHz**	**10 kHz**	**100 kHz**	**Offset from carrier**
@ 19.44 MHz	-60	-90	-120	-135	-148	dBc/Hz
@ 155.52 MHz	-60	-90	-110	-120	-120	dBc/Hz
@ 622.08 MHz	-60	-90	-100	-105	-105	dBc/Hz

1. Stability includes initial tolerance, deviation over temperature, supply and load variation, and aging for 20 years @ 25°C.

MtronPTI Lead Free Solder Profile