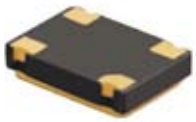
M2180 Series

5x7 mm, 1.8 Volt, HCMOS/TTL, Clock Oscillator



- 1.8 Volt Operation
- Standby Option
- High density boards, low power circuits, portable test sets

Ordering Information

M2180 1 3 T C N 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

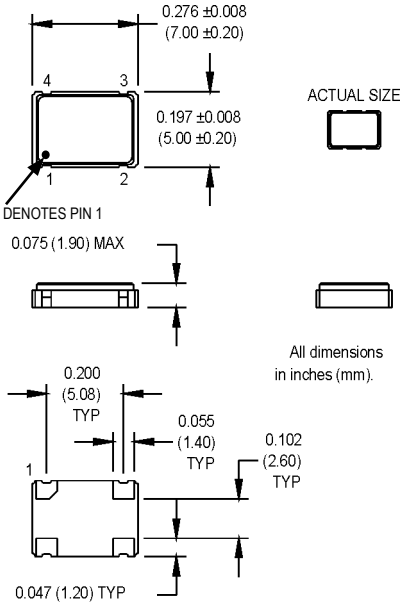
Stability
- **3:** ±100 ppm
- **4:** ±50 ppm
- **5:** ±35 ppm
- **6:** ±25 ppm

Output Type
- **F:** Fixed
- **Q:** Standby Function
- **T:** Tristate

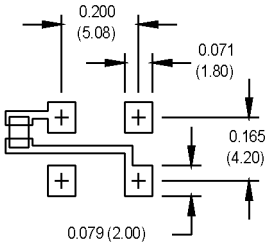
Symmetry/Logic Compatibility
- **A:** 40/60 TTL/HCMOS
- **C:** 45/55 HCMOS

Package/Lead Configurations
- **N:** Leadless

Frequency (customer specified)



SUGGESTED SOLDER PAD LAYOUT



NOTE: A capacitor of value 0.01 µF or greater between Vdd and Ground is recommended.

Pin Connections

PIN	FUNCTION
1	N/C, Tri-state or Standby
2	Ground
3	Output
4	+Vdd

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	1.0		70	MHz	See Note 1
	Frequency Stability	ΔF/F	(See Ordering Information)				
	Operating Temperature	T_A	(See Ordering Information)				
	Storage Temperature	Ts	-55		+125	°C	
	Input Voltage	Vdd	1.62	1.8	1.98	V	
	Input Current	Idd			20	mA	
	Standby Current				10	µA	Standby Mode
	Symmetry (Duty Cycle)		(See Ordering Information)				½ Vdd
	Load				30/10	pF/TTL	
	Rise/Fall Time	Tr/Tf					
	1.000 to 35.328 MHz				10	ns	Ref. 10% - 90% Vdd
	35.328 to 70.000 MHz				6	ns	Ref. 10% - 90% Vdd
	Logic "1" Level	Voh	90% Vdd			V	HCMOS Load
	Logic "0" Level	Vol			10% Vdd	V	HCMOS Load
	Cycle to Cycle Jitter			8	15	ps RMS	1 Sigma
	Standby/Tristate Function		Input Logic "1" or floating; output active Input Logic "0"; output to high-Z				
Environmental	Mechanical Shock		Per MIL-STD-202, Method 213, Condition C				
	Vibration		Per MIL-STD-202, Method 201 & 204				
	Reflow Solder Conditions		See "Figure 2" on page 147				
	Hermeticity		Per MIL-STD-202, Method 112 (1 x 10^{-8} atm.cc/s of helium)				
	Solderability		Per EIAJ-STD-002				

1. Not all frequencies are available. Please contact factory for availability.