

M4R Series 5.0 Volt SMT PECL Oscillators

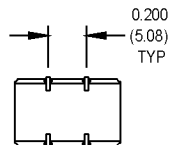
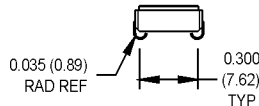
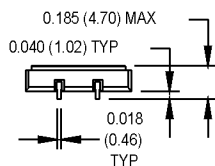
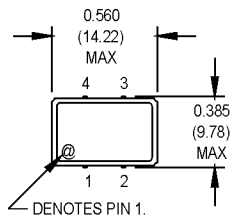


Features:

- Wide frequency range
- Low jitter
- Rugged ceramic package
- Extended temp. range
- Complementary output

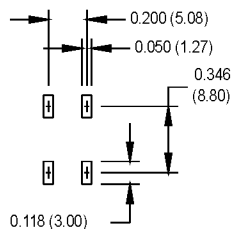
Applications:

- SONET/ATM
- Fibre Channel
- LAN/WAN
- Clock generators
- Ethernet



All dimensions
in inches (mm).

SUGGESTED SOLDER PAD LAYOUT



Ordering Information

Product Series	Temperature Range	Stability	Output Type	Symmetry/Logic Compatibility	Package/Lead Configurations	Frequency (customer specified)
M4R	1: 0°C to +70°C 2: -40°C to +85°C 6: 20°C to +70°C 7: 0°C to +85°C	1: ±1000 ppm 2: ±500 ppm 3: ±100 ppm 4: ±50 ppm 5: ±35 ppm 6: ±25 ppm 8: ±20 ppm	X: Single output (Q) Z: Dual output (Q & Q)	A: 40/60 B: 45/55	J: J Lead (Gold Flash Leads)	00.0000 MHz

Pin Connections

PIN	FUNCTION(S) (Model Dependent)
1	N/C or Output #2, $\overline{Q}$
2	Case Ground
3	Output #1, Q
4	+Vcc

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	19.44		200	MHz	
	Frequency Stability	$\Delta F/F$	(See Ordering Information)				See Note 1
	Operating Temperature	T _A	(See Ordering Information)				
	Storage Temperature	T _S	-55		+125	°C	
	Input Voltage	V _{CC}	4.75	5.0	5.25	V	
	Input Current	I _{EE} /I _{CC}		70	100	mA	
	Symmetry (Duty Cycle)		(See Ordering Information)				V _{CC} -1.3 level
	Load		50 Ω to V _{CC} -2 V or Thevenin Equivalent				
	Rise/Fall Time	T _r /T _f			2.5	ns	V _{CC} -0.98 & V _{CC} -1.63
	Logic "1" Level	V _{OH}	V _{CC} -1.02			V	
	Logic "0" Level	V _{OL}			V _{CC} -1.63	V	
	Phase Jitter	ϕ_J		1		ps RMS	1 Sigma, f _J > 1 kHz
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition E					
	Vibration	Per MIL-STD-202, Method 201 & 204					
	Reflow Solder Conditions	260°C for 10 s max. Or 230°C for 90 s max.					
	Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 ⁻⁸ atm.cc/s of helium)					
	Solderability	Per EIAJ-STD-002					

1. Calibration, deviation over temperature, shock, vibration, and aging.

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