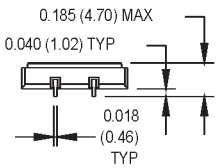
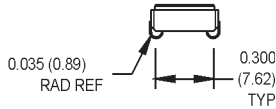
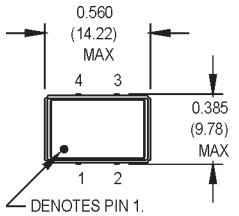


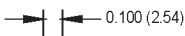
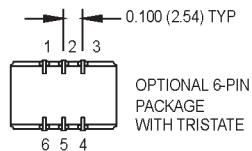
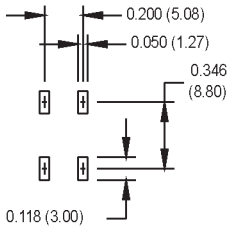
M5R Series

9x14 mm, 3.3 Volt, LVPECL/LVDS, Clock Oscillator



All dimensions in inches (mm).

SUGGESTED SOLDER PAD LAYOUT



Pin Connections

FUNCTION	4 Pin	6 Pin
N/C or Output \bar{Q}	1	1
Enable		2
Ground/Cover	2	3
Output Q	3	4
N/C		5
+Vcc	4	6

Ordering Information

Product Series	Temperature Range	Stability	Output Type	Symmetry/Output Logic Type	Package/Lead Configurations	RoHS Compliance	Frequency (customer specified)
M5R	1: 0°C to +70°C 6: -20°C to +70°C 8: 0°C to +50°C	3: ±100 ppm 6: ±25 ppm	R: Complementary Enable Z: Complementary w/o Enable	L: 45/55% LVDS H: 40/60% LVDS	J: J-lead	Blank: non-RoHS compliant part -R: RoHS compliant part	00.0000 MHz
	2: -40°C to +85°C 7: -0°C to +85°C	4: ±50 ppm 8: ±20 ppm	T: Single Enable X: Single w/o Enable	P: 45/55% PECL Q: 40/60% PECL			

1. Calibration, deviation over temperature, shock, vibration, and aging.
2. PECL load - see load circuit diagram #5. LVDS load - see load circuit diagram #9. M2011Sxxx - Contact factory for datasheet.

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	0.75		800	MHz	
Operating Temperature	T _A	(See ordering information)				
Storage Temperature	T _s	-55		+125	°C	
Frequency Stability	ΔF/F	(See ordering information)				
Aging						See Note 1
1st Year			±2		ppm	
Thereafter (per year)			±1		ppm	
Input Voltage	V _{cc}	3.135	3.3	3.465	V	
PECL Input Current	I _{cc}			60	mA	0.75 to 24 MHz
				95	mA	24 to 96 MHz
				105	mA	96 to 800 MHz
LVDS Input Current	I _{cc}			30	mA	0.75 to 24 MHz
				60	mA	24 to 800 MHz
Output Type						PECL/LVDS
Load						See Note 2
				50 Ohms to V _{cc} - 2 VCD		PECL Waveform
				100 Ohm differential load		LVDS Waveform
Symmetry (Duty Cycle)						@ V _{cc} -1.3 VDC (LVPECL) @ 50% of waveform (LVDS)
Output Skew				200	ps	PECL
Differential Voltage		250	350	450	mV	LVDS
Logic "1" Level	V _{oh}	V _{cc} -1.02			V	PECL
Logic "0" Level	V _{ol}			V _{cc} -1.63	V	PECL
Rise/Fall Time	T _r /T _f		0.35 0.50	0.55 1.0	ns	@ 20/80% LVPECL @ 20/80% LVDS
Enable Function		80% V _{cc} min or N/C: output active 20% V _{cc} max: output disables to high-Z				"R" & "T" output types
Start up Time				10	ms	
Phase Jitter	φ _J					Integrated 12 kHz - 20 MHz
>I=20 MHz			3	5	ps RMS	
Environmental	Mechanical Shock	MIL-STD-202, Method 213, C (100 g's)				
	Vibration	MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)				
	Thermal Cycle	MIL-STD-883, Method 1010, B (-55°C to +125°C, 15 min dwell, 10 cycles)				
	Hermeticity	MIL-STD-202, Method 112				
	Solderability	Per EIAJ-STD-002				
Max Soldering Conditions	See solder profile, Figure 1					

1. Calibration, deviation over temperature, shock, vibration and aging.
2. PECL load - see Load Circuit Diagram #5. LVDS load - see load circuit diagram #9.

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

