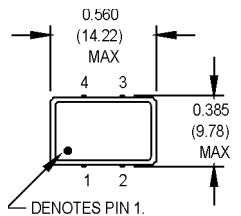


M5RJ Series

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



- Integrated phase jitter of less than 1 ps from 12 kHz to 20 MHz
- Ideal for 10 and 40 Gigabit Ethernet and Optical Carrier applications



FREQUENCY RANGE	AVAILABLE OUTPUT TYPES
19.440 to 170.000 MHz	Z, E, R
170.000 to 800.000 MHz	S, U

Ordering Information

Product Series M5R 1 8 Z Q J -R 00.0000 MHz

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

8: 0°C to +50°C

Stability

3: ±100 ppm 4: ±50 ppm 5: ±35 ppm

6: ±25 ppm 8: ±20 ppm

Output Type

E: Complementary, pins 1 & 4, enable (enabled w/pin 2 low)

R: Complementary, pins 1 & 4, enable (enabled w/pin 2 high)

S: Complementary, pins 4 & 5, enable (enabled w/pin 2 low)

U: Complementary, pins 4 & 5

Z: Complementary, pins 1 & 3

*Symmetry/Output Logic Type

P: 45/55% PECL

Q: 40/60% PECL

Package/Lead Configurations

J: J-lead

RoHS Compliance

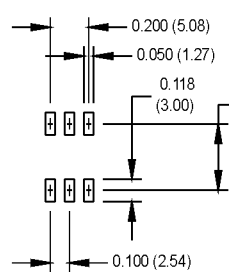
Blank: non-RoHS compliant part

-R: RoHS compliant part

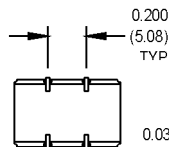
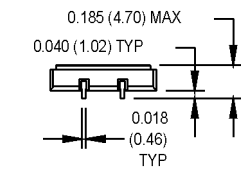
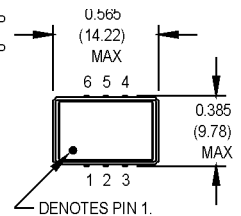
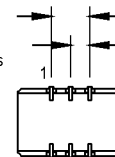
Frequency (customer specified)

* Contact the factory regarding LVDS output availability

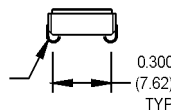
SUGGESTED SOLDER PAD LAYOUT



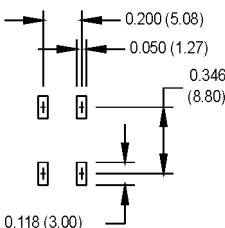
All dimensions in inches (mm).



0.035 (0.89) RAD REF



SUGGESTED SOLDER PAD LAYOUT



Pin Connections (Z, E, and R Output Types)

FUNCTION	4 Pin	6 Pin
Output/Q	1	1
Enable		2
Ground/Cover	2	3
Output Q	3	4
N/C		5
+Vcc	4	6

Pin Connections (S and U Output Types)

PIN	FUNCTION
1	N/C
2	N/C or Enable
3	Ground/Cover
4	Output Q
5	Output/Q
6	+Vcc

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	19.44		800	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						
1st Year			±2		ppm	
Thereafter (per year)			±1		ppm	
Input Voltage	V _{CC}	3.135	3.3	3.465	V	
Input Current	I _{CC}			75	mA	
Output Type						LVPECL/LVDS
Load		50 Ohms to V _{CC} -2.0 V Or Thevenin equivalent				PECL load
Symmetry (Duty Cycle)		(See Ordering Information)				
Output Skew				200	ps	PECL
Differential Voltage		250	340	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			0.55	ns	@ 20/80% LVPECL
			.50	1.0	ns	@ 20/80% LVDS
Enable Function		PECL low: output active PECL high: output disables 80% V _{CC} min. Or N/C: output active 20% V _{CC} max.: output disables				"E" and "S" output types
Start up Time			5		ms	
Phase Jitter	φ _J			1	ps RMS	Integrated 12 kHz - 20 MHz
Below 600 MHz				0.5	ps RMS	Integrated 12 kHz - 20 MHz
600 MHz and above						

1. Consult factory for exact frequency availability.

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

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.