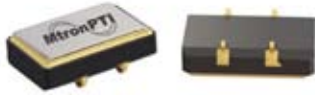
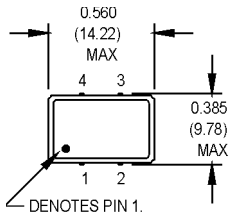


M5RJ Series

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



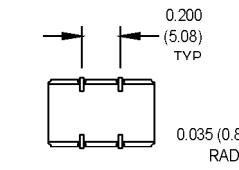
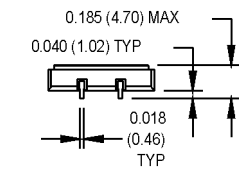
- Integrated phase jitter of less than 1 ps from 12 kHz to 20 MHz
- Ideal for 10 and 40 Gigabit Ethernet and Optical Carrier applications



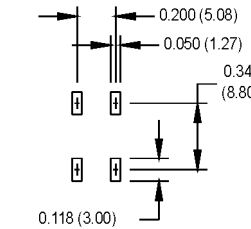
FREQUENCY RANGE	AVAILABLE OUTPUT TYPES
19.440 to 170.000 MHz	Z, E, R
170.000 to 800.000 MHz	S, U

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



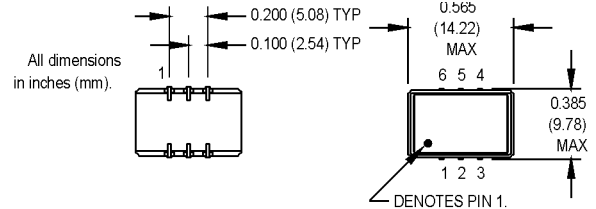
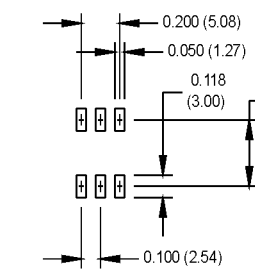
Pin Connections (Z, E, and R Output Types)

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

SUGGESTED SOLDER PAD LAYOUT



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	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 "R" output type
Start up Time		5			ms	
Phase Jitter	φ _J			1	ps RMS	Integrated 12 kHz - 20 MHz
				0.5	ps RMS	Integrated 12 kHz - 20 MHz

1. Consult factory for exact frequency availability.
2. Calibration, deviation over temperature, shock, vibration, and aging.

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Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.