



## M7S/M8S Series 9x14 mm J-Leaded , HCMOS/TTL SMT Clock Oscillator

MtronPTI announced today the continued support of the industry standard 9x14 package with J-leads utilized in the M7S/M8S series crystal oscillators. This product family directly crosses to the now obsolete Epson SG-8002JA and Abracon/ Ecliptek EH14/15 product series. This product family supports multiple stability and output options with a wide operating temperature range of -55°C to 125°C. Available with both RoHS and nonRoHS options.

MtronPTI offers a broad line of precision crystal resonators, oscillators, filters, and Integrated Microwave Assembly solutions. MtronPTI is an ISO 9001:2015 and AS9100 Rev. D certified organization.

### Features:

9x14mm J-leaded Ceramic package

Operating voltage 5V or 3.3V

Frequency range 1 MHz to 125 MHz

Operating temp range up to -55 °C to +125 °C

HCMOS/TTL Output

**Direct cross to Epson 8002JA series of oscillators**

**Direct cross to Abracon/ Ecliptek EH14/15 series of oscillators**

### Applications:

Avionics and Aerospace

Test and Measurement

Industrial

Communication and Navigation

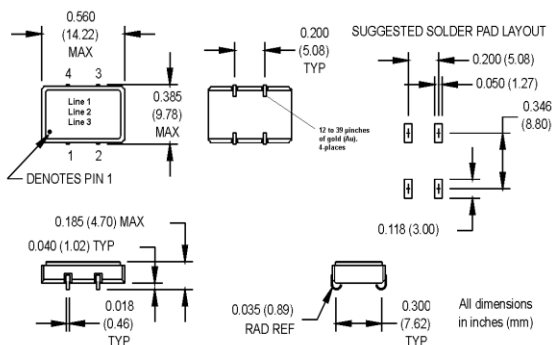


## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Range	F <sub>0</sub>	1		125	MHz	
<b>Frequency Stabilities</b>						
vs. Operating Temperature	ΔF/F	(See ordering information)			ppm	Includes initial tolerance @ +25°C and deviation over operating temperature range.
vs. Aging			±3		ppm	1st year
			±2		ppm	Thereafter (per year)
<b>RF Output</b>						
		HCMOS/TTL Compatible				
Output Load M7S  M8S		10 TTL or 50 pF 10 TTL or 15 pF 15 pF				See Note 1 1.000 to 80.000 MHz 80.001 to 125.000 MHz 1.000 to 125.000 MHz
Symmetry (Duty Cycle)		(See Ordering Information)				
Logic “1” Level	V <sub>OH</sub>	90% V <sub>DD</sub> V <sub>DD</sub> -0.5				HCMOS Load TTL Load
Logic “0” Level	V <sub>OL</sub>			10%V <sub>DD</sub> 0.5	V V	HCMOS Load TTL Load
Output Current 1 to 80 MHz 80.001 to 125 MHz 1 to 80 MHz 80.001 to 125 MHz			±16 +16/-8 ±8 +8/-4		mA mA mA mA	M7S M7S M8S M8S
Rise/Fall Time 1 to 40 MHz 40.001 to 125 MHz	T <sub>R</sub> /T <sub>F</sub>			7/6 5/4	ns ns	M7S/M8S M7S/M8S
Tristate Function		Input Logic “1” or floating: Input Logic “0”:				Output Active Output Disables to High Z
Start-up Time	T <sub>SU</sub>			10	ms	T <sub>ambient</sub> = +25°C
<b>Other Parameters</b>						
Random Jitter (RMS)	RJ		5 12	12 100	ps RMS ps RMS	1.000 to 80.000 MHz 80.001 to 125.000 MHz
<b>Operating Voltage and Current</b>						
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Voltage	V <sub>DD</sub>	4.5	5.0	5.5	V	M7S
		3.135	3.3	3.465	V	M8S
Operating Current	I <sub>DD</sub>			85	mA	M7S
				35	mA	M8S

## MECHANICAL AND PIN OUT INFORMATION

Pad	Function
1	Enable/Disable or N/C
2	Ground
3	Output Q
4	Supply $V_{DDT}$



## ENVIRONMENTAL CONDITIONS

Temperature				
Operating Temperature	T <sub>A</sub>	See ordering information		°C
Storage Temperature	T <sub>s</sub>	-55	+125	°C
Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)			
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)			
Solderability	Per EIAJ-STD-002			
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10-8 atm cc/s of helium)			