

# R1380 Series, R3390 Series

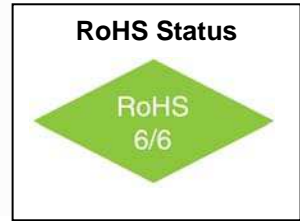
## XO – 3.3V

### HCMOS/TTL



#### Features

- 500KHz to 165MHz Frequency range, fixed output
- Stability options of  $\pm 100$ ppm to  $\pm 20$ ppm
- Start up time is less than 5ms
- Tristate
- Jitter 6ps RMS



#### Applications

- DSL
- Gigabit Ethernet
- Fibre Channel
- VoIP

#### Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		0.5		165	MHz	
Frequency Stability	$\Delta F/F$	Operating Temperature at 25°C	$\pm 20$		$\pm 100$	ppm	See Chart
Operating Temperature	T		0°		+70°	°C	
Aging		First Year After First Year		3 1		ppm ppm/yr	
Supply Voltage	V <sub>CC</sub>		3.0	3.3	3.6	V	
Jitter					6		ps RMS
Output Levels		“0” Level, sinking 16 mA “1” Level CMOS, sourcing 8 mA	V <sub>DD</sub> -0.4		0.4	V	
Symmetry		CMOS, @ 50% V <sub>DD</sub>		48/52	45/55	%	
Rise and Fall Times		CMOS, 15 pF CMOS, 30 pF CMOS, 50 pF		3.0 4.0 6.0	4 5 8	ns	20 to 80% (<60 MHz)
		CMOS, 15 pF CMOS, 30 pF		2.0 3.0	2.5 4.5		20 to 80% (>60 MHz)



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### Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Current	I <sub>cc</sub>	3 to 10 MHz		3.0	4.5	mA	
		10.1 to 20 MHz		5.0	6.0		
		20.1 to 30 MHz		10.0	15.0		
		30.1 to 50 MHz		35.0	40.0		
		50.1 to 67 MHz		40.0	50.0		
		67.1 to 125 MHz		60.0	70.0		
Input Requirements for Pin 1		"1": On – Pin 1 may float or 2.4V min., sourcing 400 µA "0": Disable or Tristate – Pin 1 requires 0.4V, sinking 400 µA					
Output Levels		"0" Level, sinking 16 mA "1" Level CMOS, sourcing 8 mA	V <sub>DD</sub> -0.4		0.4	V	

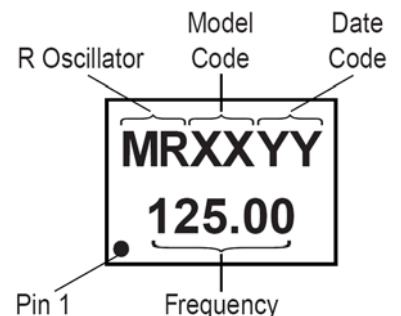
### Environmental and Mechanical Conditions

Parameter	Specification
Shock	1000 Gs, 0.35 ms, 1/2 sine wave, 3 shocks in each plane
Vibration	10-2000 Hz of .06" d.a. or 20 Gs, whichever is less
Humidity	Resistant to 85° R.H. at 85°C
Leak	MIL STD 883, Method 1014, condition A1
Pads	0.3 - 1µm gold over Ni ( 10 to 40 µinches of gold ) Over 1.27 - 8.89µm Ni ( 50 to 350 µinches of Ni )
Case	Ceramic with hermetic resistance-welded metal lid
Marking	Epoxy ink or laser engraved
Resistance to Solvents	MIL STD 202, Method 215

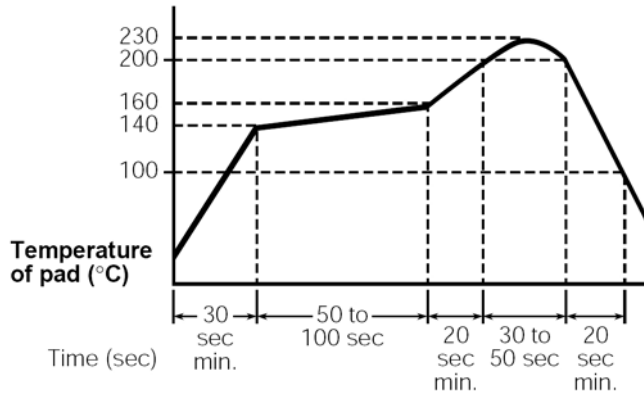
### Marking Specifications

FIXED OUTPUT		TRISTATE		Frequency Stability
Model	Marking Code ID*	Model	Marking Code ID*	
R1380	E	R3390	G	±100 ppm
R1381	AL	R3391	Q	±25 ppm
R1382	F	R3392	H	±50 ppm
R1388	BV	R3398	BY	±20 ppm
R1389	BW	R3399	BZ	±32 ppm

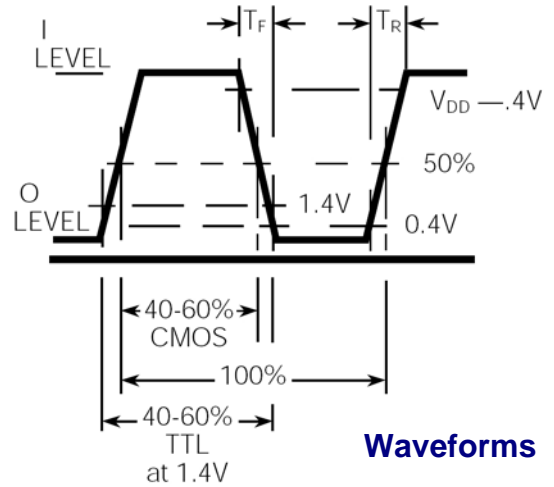
\*See Marking Specification



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**Recommended Reflow Soldering Profile**



**Waveforms**

### HOW TO ORDER

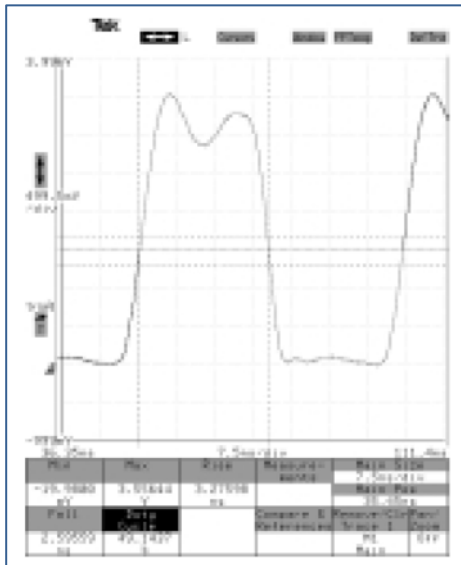
R - 3390 - FREQ.

↑

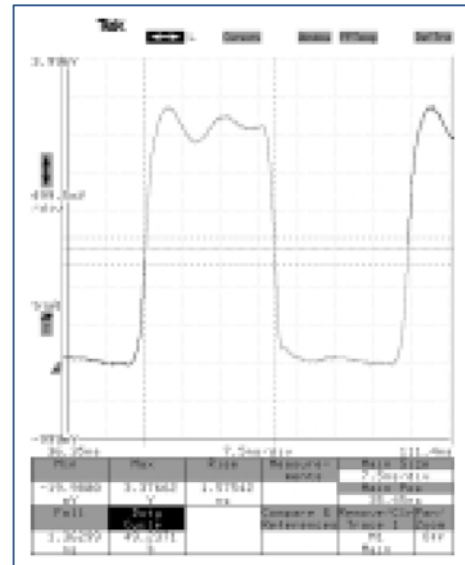
“R” is SMD model

↑

“3390” is model type



**Fig.1 R3392-20M with 25pf load**



**Fig.2 R3392-20M without load**



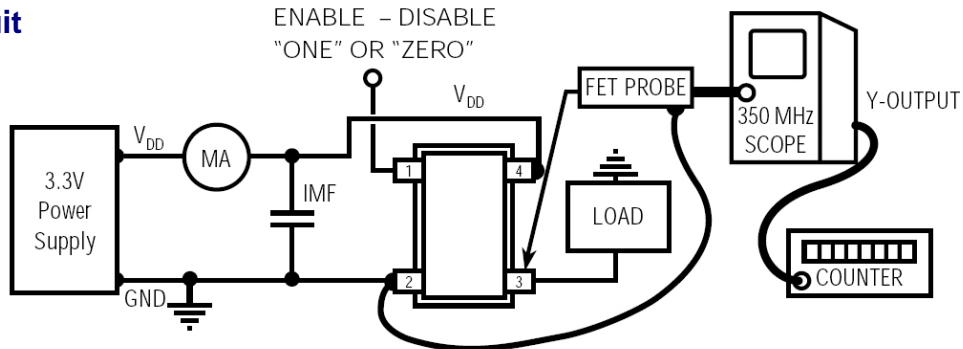
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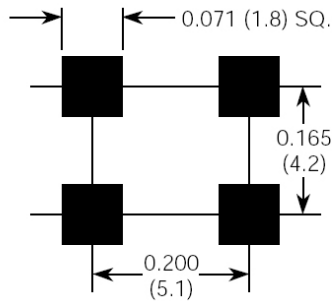


#### Test Circuit



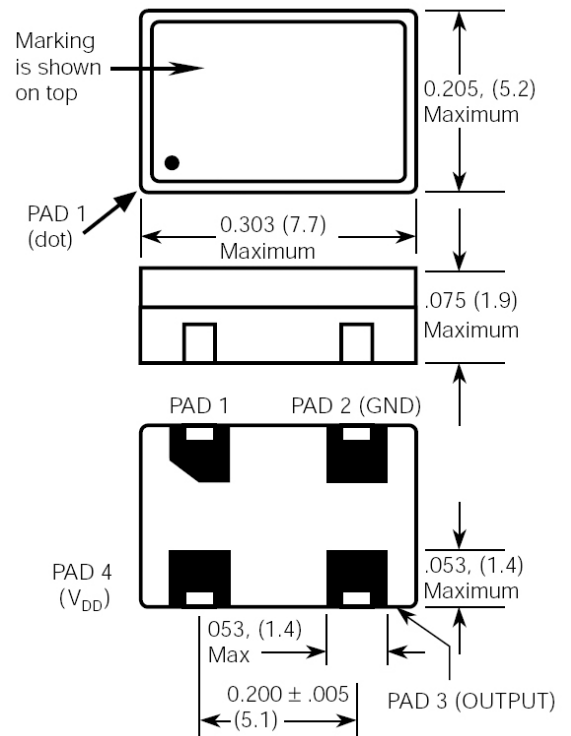
To adapt Fet probe to receptacle use Tektronix Part #103-0164-00

To connect output to scope use Tektronix Part #131-0258-00 (receptacle)



SUGGESTED PC PADS

Millimeters are shown in ( ).



	Fixed Output Models	Tristate Models
Pad 1	NOT USED	Floating or 1 : Oscillator runs Ground or 0 : Disable or Tristate
Pad 2		Ground and Case
Pad 3		Output
Pad 4		+3.3V, V <sub>DD</sub>

