

R1800, R1801, R1802
R3800, R3801, R3802
5X7 mm Surface Mount
HCMOS 1.8V 850KHz to 165 MHz

Features

- Fixed frequency or tristate
- Very low power when tristated
- Start up time less than 5 ms.
- Stability options from +/-100 ppm to +/-25ppm
- Guaranteed start-up with ramping DC supply

Typical Applications

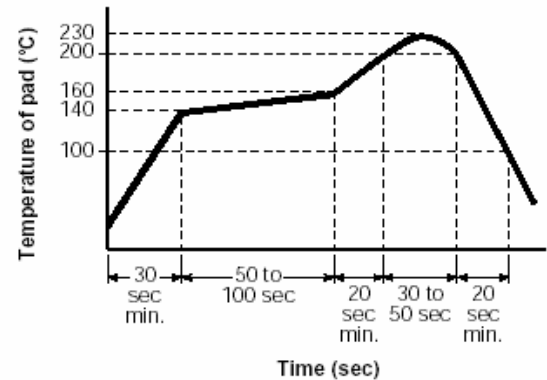
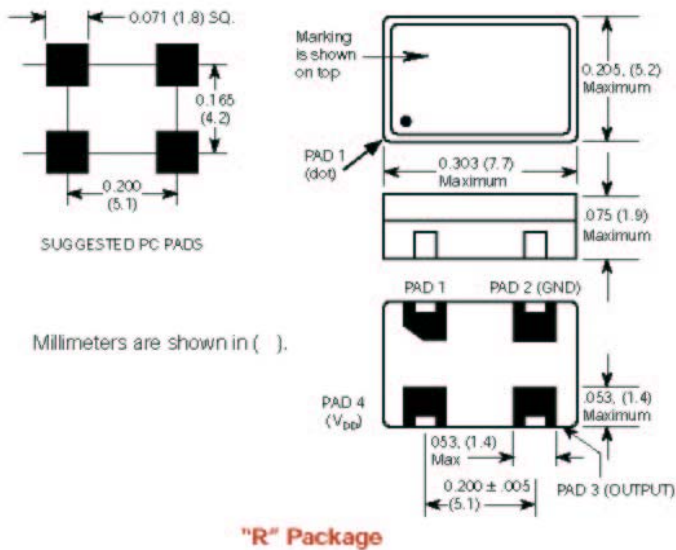
- Any surface mount PCB that requires a standard HCMOS/TTL 1.8V clock, including microprocessors and microcontrollers

Description

Valpey Fisher's R models surface mount (SMD) oscillators provide clock waveforms needed to clock standard HCMOS circuits.

CONNECTIONS

	Fixed Output Models	Tristate Models
Pad 1	NOT USED	Floating or 1: Oscillator runs Ground or 0: Tristate
Pad 2	Ground and Case	
Pad 3	Output	
Pad 4	+1.8V, V_{DD}	



Recommended Reflow Soldering Profile

R1800, R1801, R1802 **R3800, R3801, R3802** **5X7 mm Surface Mount** **HCMOS 1.8V 850KHz to 165 MHz**

ELECTRICAL SPECIFICATIONS

Frequency Range 850 KHz to 165 MHz

Frequency Stability Includes calibration at 25°C, operating temperature change of input voltage, change of load, shock and vibration

	MIN	TYP	MAX	UNITS
Input Voltage	1.7	1.8	1.9	volts
Load			15	pf
Input Current				
850 KHz to 70 MHz, with 15pf load		7.0	10.0	mA
70.1 to 165.0 MHz with 15pf load		15.0	18.0	mA

Output Levels

"0" Level		10% V _{DD}	volts
"1" Level	90% V _{DD}		volts

Rise and Fall Times

Jitter		5	ns
From positive edge to positive edge		10	ps RMS

Symmetry

850 KHz to 70MHz, @ 50% V _{DD}	48/52	45/55	percent
70.1 to 165.0 MHz, @ 50% V _{DD}	45/55	40/60	percent

Aging

First year	3	ppm
After first year	1	ppm/yr

Input Requirements for Pin 1:

"1": On-Pin 1 may float or 90% V_{DD} min.

"0": Tristate-Pin 1 requires 10% V_{DD}

ENVIRONMENTAL SPECIFICATIONS

Temperature

*Operating	0° to 70°C
Storage	-55° to +125°C

Shock-1000 Gs, 0.35 ms, ½ 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

MECHANICAL SPECIFICATIONS

Leak- MIL STD 883, Method 1014, Condition A1

Case- Hermetically sealed package

Pads- 60 microinch of gold over nickel

Marking- Epoxy ink or laser engraved

Resistance to solvents- MIL STD 202, Method 215

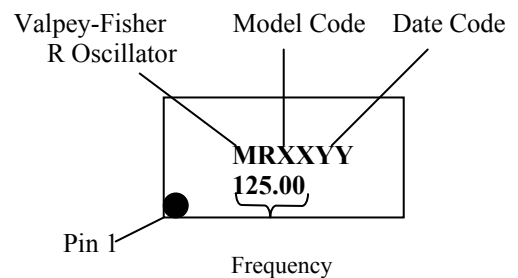
*Operating -40 to +85°C also available.

NON-TRISTATE		TRISTATE	
MODEL	Frequency Stability	MODEL	Frequency Stability
R1800	+/-100ppm	R3800	+/-100ppm
R1801	+/-25ppm	R3801	+/-25ppm
R1802	+/-50ppm	R3802	+/-50ppm

*See Marking Specification

MARKING SPECIFICATION

The format for the marking is:



HOW TO ORDER

For part Number, put package type before model number, and add frequency in MHz, for example:

