

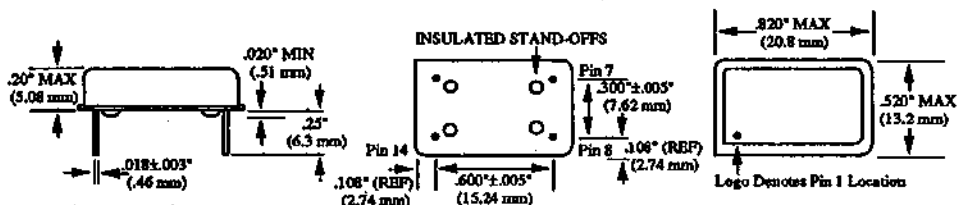
# F1100 SERIES / TTL CLOCK OSCILLATORS



FOX F1100 Series Oscillators are TTL Compatible and are manufactured using state of the art thick film hybrid technology.

Fox oscillators feature a high quality welded package that offers a hermetic seal to provide excellent resistance to extremes of heat/humidity. With pin 7 case ground, the metal package also provides shielding to minimize RF radiation, helping to meet FCC EMI specifications. The Fox oscillators can be soldered in standard wave-line operations without damage. High insulated stand-offs permit good deflusing.

The F1100 Series is interchangeable with Motorola K1100AM and similar models.



**Pin Connections**  
 #1 N.C.    #8 Output  
 #7 GND    #14 +5VDC

### FEATURES

- Rugged Resistance Weld
- Low Profile Design
- TTL Compatible
- Stability from 1% - .0025%
- Surface Mount Option
- Stainless Steel Cover

### F1100 SPECIFICATIONS

Frequency Range	.250 MHz - 80 MHz	
Frequency Stability *	±0.0025% - ±1.0%	
Operating Temperature Range	0°C to +70°C	
Input Voltage	5 VDC ±10%	
Input Current	(MAX) @ 25°C (MAX) over temp	
	70 mA	90 mA    .250 - 3.199 MHz
	30 mA	40 mA    3.200 - 24.999 MHz
	50 mA	70 mA    25.000 - 80.000 MHz
TTL Output: Symmetry @ 1.4 V Level	40/60% (45/55% available on request)	
Rise & Fall Times	15 nS	.250 - 8.999 MHz
	10 nS	9.000 - 31.999 MHz
	6 nS	32.000 - 80.000 MHz
Logic '0' Level	+0.4 V (MAX)	.250 - 31.999 MHz
Logic '0' Level	+0.5 V (MAX)	32.000 - 80.000 MHz
Logic '1' Level	+2.4 V (MIN)	.250 - 80.000 MHz
Logic '0' Sink Current, IOL	16 mA (MIN)	.250 - 19.999 MHz
	1.6 mA/Gate	
	20 mA (MIN)	20.000 - 80.000 MHz
	2.0 mA/Gate	
Logic '1' Source Current, IOH	-0.4 mA (MIN)	.250 - 19.999 MHz
	-0.5 mA (MIN)	20.000 - 80.000 MHz
Output Load	1-10 TTL Gates	
Start-up Time	.250 - 3.199 MHz	30 mS (MAX)
	3.200 - 3.999 MHz	10 mS (MAX)
	4.000 - 5.999 MHz	30 mS (MAX)
	6.000 - 8.999 MHz	10 mS (MAX)
	9.000 - 26.999 MHz	5 mS (MAX)
	27.000 - 31.999 MHz	15 mS (MAX)
	32.000 - 39.999 MHz	10 mS (MAX)
	40.000 - 80.000 MHz	5 mS (MAX)

28 \* Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration. All specifications subject to change without notice.

**F1100 SERIES STANDARD PRODUCT LINE**

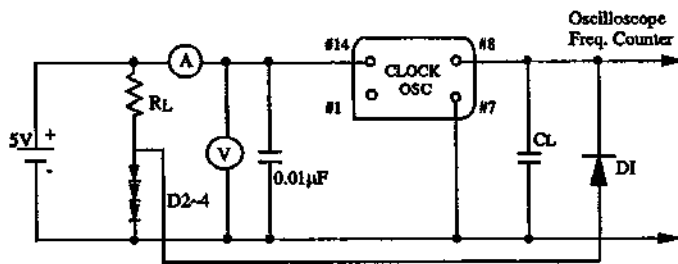
Model	Stability	Frequency Range
F1100 Standard	±0.01%	.250 - 80 MHz
F1114	±0.05%	.250 - 80 MHz
F1115	±0.1%	.250 - 80 MHz
F1116	±1.0%	.250 - 80 MHz
F1144	±0.0025%	1.000 - 70 MHz
F1145	±0.005%	.250 - 80 MHz

**MECHANICAL SPECIFICATIONS**

Gross Leak Test:	All units 100% leak tested in Fluorinert FC-43
Hermetically Sealed Package:	Mass spectrometer leak rate less than $2 \times 10^{-8}$ Atm CC/sec. of Helium
Seal Strength:	20 lbs. max. force perpendicular to top and bottom
Pin Material:	Iron and Nickel - Nickel coated, solder dipped
Bend Test:	Will withstand maximum bend of 90° reference to base for 2 bends.
Marking Ink:	Epoxy, heat cured
Solvent Resistance:	Isopropyl alcohol, Trichloroethane, Freon Note 1 - Ultrasonic degreaser not to be used Note 2 - Unit can be cleaned in only one solvent listed
Solderability:	The terminals are considered solderable and acceptable for electrical connection if 90 percent of the cold solder surface is uniform and free from breaks and pinholes. The other 10 percent of the cooled solder surface may show only pinholes, voids, or rough spots that are not concentrated in one area.
Maximum Soldering Temp.	260° for 10 seconds
Shock Test	1000 G's, 0.35 ms, 1/2 Sine Wave, 3 Shocks each plane
Vibration Test	10-55Hz, 0.060" D.A., 55-2000Hz, 35 G's, Duration Time 12 Hrs
Humidity Test	85% Relative Humidity, 85°C, 250 Hrs

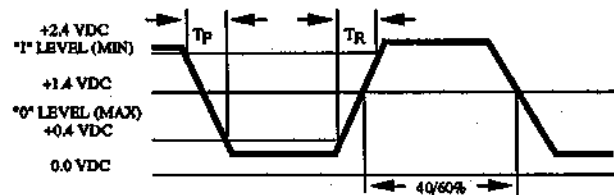
**CLOCK OSCILLATOR TEST CIRCUIT**

**TTL OUTPUT WAVEFORM**



CL = 15 pF  
Includes probe & test jig

D1-D4 SWITCHING DIODE  
CL 15 pF  
RL 400 Ω 250-19.999 MHz  
280 Ω 20-80 MHz



**SURFACE MOUNT CAPABILITY**



All specifications subject to change without notice.