



SUNSTAR 射频电子
**CRYSTAL
 OSCILLATORS
 HCMOS 5V**

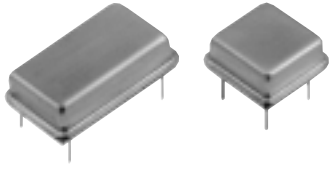
http://www.rfoe.net/ TEL:0755-83396822 FAX:0755-83376182 E-MAIL:szss20@163.com

FULL SIZE D.I.L.
 M package

M1254, M1256,
 M1258
 M3254, M3256,
 M3258
 M4001 thru M4009
 M4301 thru M4309

HALF SIZE D.I.L.
 H package

H1254, H1256,
 H1258
 H3254, H3256,
 H3258
 H4001 thru H4009
 H4301 thru H4309



Thru-Hole
Extended Temperature/COTS
FIXED/TRISTATE, 20 KHz to 150 MHz

FEATURES

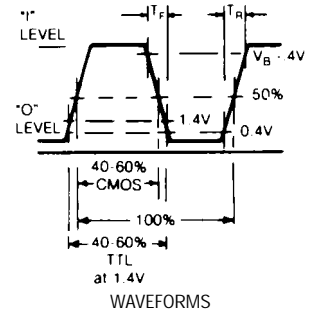
- Extremely wide operating temperature options available
- Jitter from positive edge to positive edge is 50 ps RMS max
- Hermetically sealed
- Low supply current
- All crystals are processed in-house with tight angle control to assure best frequency-temperature characteristics
- All units are vacuum baked before sealing at 175°C for 16 hours to eliminate moisture traces and pre-age units for superior aging
- Tristate option available

TYPICAL APPLICATIONS

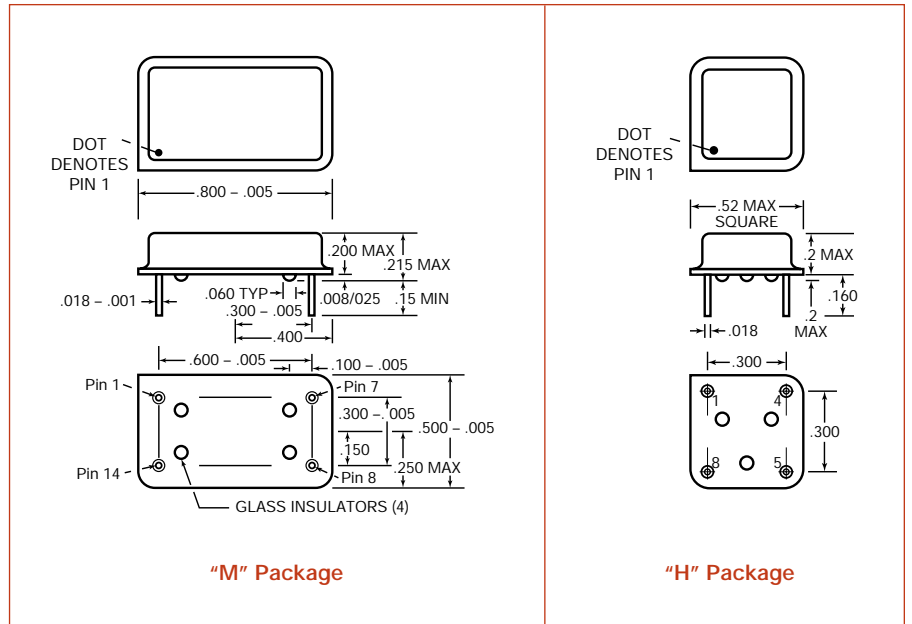
- Thru-hole PCB applications that require an HCMOS/TTL 5V clock and that might be exposed to extremely harsh environmental conditions.

Description

MF Electronics extended temperature/COTS thru-hole oscillators provide clock waveforms needed to clock standard HCMOS or TTL circuits in PCBs that may be mounted in environments that are exposed to temperature extremes.



FIXED OUTPUT	TRISTATE	Frequency Stability	Operating Temperature
MODEL	MODEL		
1254	3254	±100 ppm	0 to 175°C
1256	3256	±75 ppm	-55 to +85°C
1258	3258	±100 ppm	-40 to +85°C
4001	4301	±500 ppm	-55 to 200°C
4002	4302	±500 ppm	0 to 200°C
4003	4303	±250 ppm	-55 to 200°C
4004	4304	±250 ppm	0 to 200°C
4005	4305	±250 ppm	-55 to 175°C
4006	4306	±250 ppm	0 to 175°C
4007	4307	±150 ppm	-55 to 175°C
4008	4308	±150 ppm	0 to 175°C
4009	4309	±100 ppm	-55 to 125°C



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Thru-Hole
Extended Temperature/COTS
20 KHz to 150 MHz

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ELECTRICAL SPECIFICATIONS

Frequency Range 20 KHz to 150 MHz
Frequency Stability Includes calibration at 25°C, operating temperature, change of input voltage, change of load, shock and vibration.

Output
All units, full range
Loads 3 TLL loads, or 10 LSTTL loads, or 15 pf CMOS

	TYP	MAX	UNITS
Input Voltage	5.0 ± 0.5		volts
Input Current		40	mA
Jitter From positive edge to positive edge		50	ps RMS
Rise and Fall Time TTL and LSTTL from 0.4 to 2.4V		10	ns
CMOS, 15pf, from 0.4 to (V _{DD} -0.4) V		10	ns
CMOS, 30pf, from 0.4 to (V _{DD} -0.4) V		20	ns

Symmetry*
TTL and LSTTL @ 1.4V 40/60 percent
CMOS @50% V_{DD} 40/60 percent

Aging
First year 3 ppm/yr
After first year 1 ppm/yr

*Superior symmetry available on all models.

CONNECTIONS

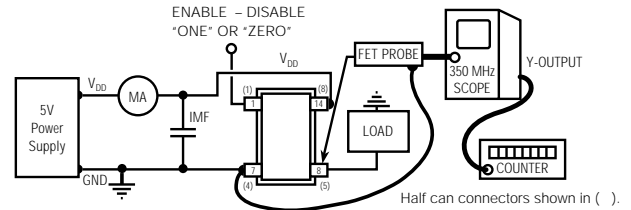
	FULL SIZE	HALF SIZE	Fixed Output	Tristate
PIN 1	1	1	NOT USED	Floating or "1": Oscillator runs Ground or "0": Disable or Tristate
PIN 7	4	4		Ground and Case
PIN 8	5	5		Output
PIN 14	8	8		5V, V _{DD}

ENVIRONMENTAL SPECIFICATIONS

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

MECHANICAL SPECIFICATIONS

Leak – MIL STD 883, Method 1014, condition A1
Pins – Alloy 52, nickel plated with 60/40 solder coat, or 7 microinch gold over nickel
Bend Test – Will withstand two bends of 90° from reference
Header – Steel, with nickel plate, or 7 microinch gold over nickel
Case – Stainless steel, type 304
Marking – Epoxy ink or laser engraved
Resistance to Solvents – MIL STD 202, Method 215



To adapt Fet probe to receptacle use Tektronix Part #103-0164-00
To connect output to scope use Tektronix Part #131-0258-00 (receptacle)

ALL OSCILLATORS HAVE INTERNAL BYPASS CAPACITORS

TEST CIRCUIT

HOW TO ORDER

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

H 4309 - 16M

"M" is full size DIL "4309" is model type "16 M" frequency in MHz
"H" is half size DIL

SS#	Rev.
M1254	A



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微波光电部专业代理经销高频、微波、光纤、光电元器件、组件、部件、模块、整机；电磁兼容元器件、材料、设备；微波 CAD、EDA 软件、开发测试仿真工具；微波、光纤仪器仪表。欢迎国外高科技微波、光纤厂商将优秀产品介绍到中国、共同开拓市场。长期大量现货专业批发高频、微波、卫星、光纤、电视、CATV 器件：晶振、VCO、连接器、PIN 开关、变容二极管、开关二极管、低噪晶体管、功率电阻及电容、放大器、功率管、MMIC、混频器、耦合器、功分器、振荡器、合成器、衰减器、滤波器、隔离器、环行器、移相器、调制解调器；光电子器件和组件：红外发射管、红外接收管、光电开关、光敏管、发光二极管和发光二极管组件、半导体激光二极管和激光器组件、光电探测器和光接收组件、光发射接收模块、光纤激光器和光放大器、光调制器、光开关、DWDM 用光发射和接收器件、用户接入系统光收发器件与模块、光纤连接器、光纤跳线/尾纤、光衰减器、光纤适配器、光隔离器、光耦合器、光环行器、光复用器/转换器；无线收发芯片和模组、蓝牙芯片和模组。

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