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

Extended Temperature/COTS
XO, 5.0V
20KHz to 100MHz

Valpey Fisher Corporation
Uncompromised Precision

Features

- Tiny 5 x 7 SMD form factor
- Hermetically sealed for rugged environmental conditions
- Extremely wide operating temperature range accommodates harsh environments
- 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 stability

Applications

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

RoHS Status

RoHS 6/6

Description

Owing to their small size, light weight, and rugged characteristics, these 5V HCMOS extended temperature/COTS oscillators fulfill tasks not previously feasible. They are used in applications that take advantage of their extended temperature range and high performance. Twenty four different models (with and without tristate) cover -55°C to +200°C operation and provide frequency selection from 20 KHz to 100 MHz. They combine excellent long-term reliability, loading characteristics, and superior startup performance.

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		0.02		100	MHz	
Frequency Stability	ΔF/F	Overall including calibration, temperature, voltage and load variation	±75		±500	ppm	See Chart
Operating Temperature	T		-55°		+200°	°C	See Chart
Aging		First Year After First Year		3 1		ppm ppm/yr	
Supply Voltage	Vcc		4.5	5.0	5.5	V	
Supply Current					40	mA	
Output		All units, full range Loads 3 TLL loads, or 10 LSTTL loads, or 15pF CMOS					
Symmetry		TTL and LSTTL @ 1.4V CMOS, @ 50% V_{DD}		40/60 40/60		%	
Rise and Fall Times		TTL and LSTTL from 0.4 to 2.4V CMOS, 15 pF, from 0.4 to (V_{DD} -0.4) V CMOS, 30 pF, from 0.4 to (V_{DD} -0.4) V			8 8 10	ns	
Input requirement for pin.1		Output enable - Output disable (Tristate)		pin 1 may float or 2.8V min pin 1 requires 0.4V max			

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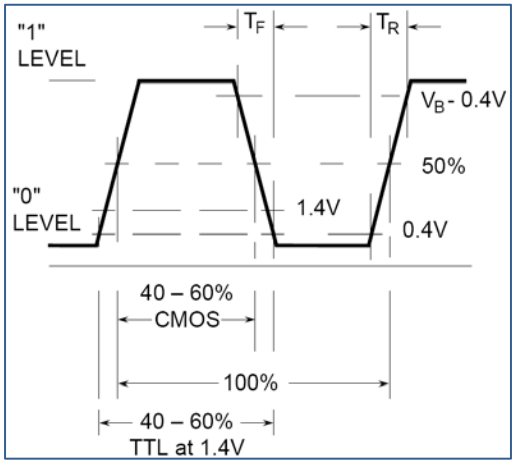
FIXED OUTPUT	TRISTATE	Frequency Stability	Operating Temperature
Model	Model		
T1250	T3250	±75ppm	-40° to +85°C
T1254	T3254	±100 ppm	0° to +175°C
T1256	T3256	±75 ppm	-55° to +85°C
T1258	T3258	±100 ppm	-40° to +85°C
T4001	T4301	±500 ppm	-55° to +200°C
T4002	T4302	±500 ppm	0° to 200°C
T4003	T4303	±250 ppm	-55° to +200°C
T4004	T4304	±250 ppm	0° to +200°C
T4005	T4305	±250 ppm	-55° to +175°C
T4006	T4306	±250 ppm	0° to +175°C
T4007	T4307	±150 ppm	-55° to +175°C
T4008	T4308	±150 ppm	0° to +175°C
T4009	T4309	±100 ppm	-55° to +125°C



Environmental and Mechanical Conditions

Parameter	Specification
Shock	1000 Gs, 0.35 ms, ½ sine wave, 3 shocks in each plane
Vibration	10-2000 Hz of 0.06" d.a. or 20 Gs, whichever is less
Humidity	Resistant to 85° R.H. at 85°C
Gross Leak	Each unit checked in 125°C fluorocarbon
Fine Leak	Mass spectrometer leak rate less than $2x10^{-8}$ atm, cc/sec of helium
Case	Ceramic with glass hermetic seal
Pads	40 microinch of gold over nickel or tinned (solder coated)
Marking	Epoxy ink or laser engraved
Resistance to Solvents	MIL STD 202, Method 215

HOW TO ORDER

T - **4 3 0 9** - **FREQ.** - **TL**

"T" is SMD T package

"4309" is model type

" " is none (gold pads)
"TL" is tinned pads

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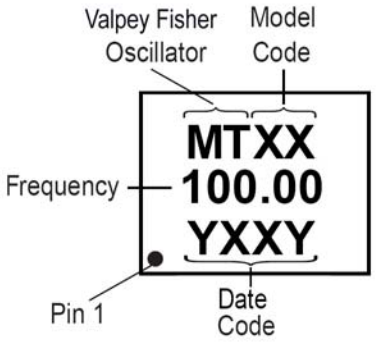
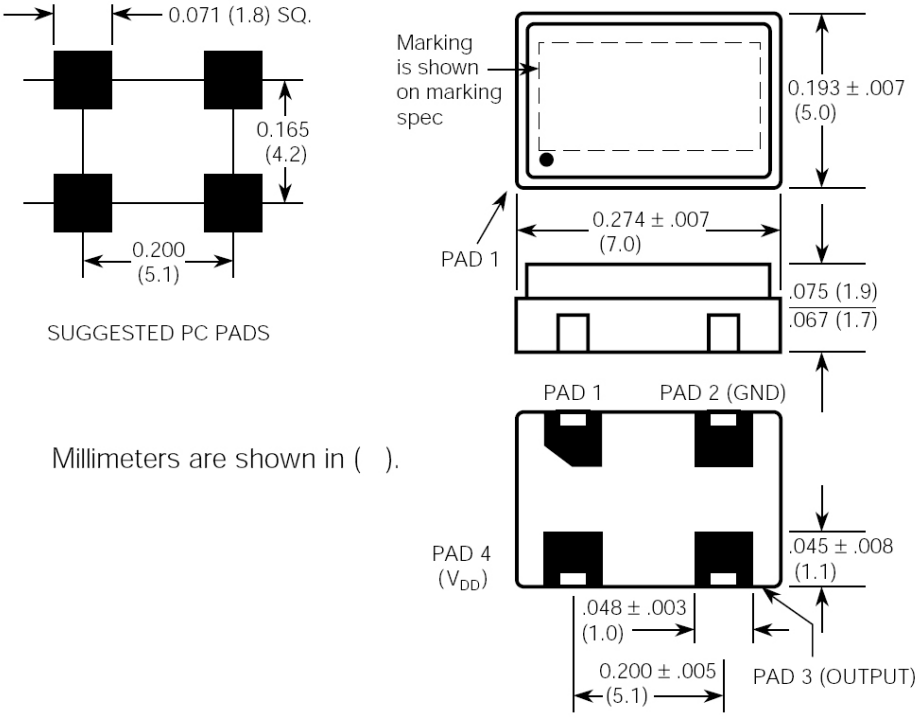
Marking Specifications

The format for the marking is:



Package Outline



Millimeters are shown in ( ).

Pin	Non-Tristate Models	Tristate Models
1	NOT USED	Floating or 1 : Oscillator runs Ground or 0 : Disable or Tristate
2	Ground and Case	
3	Output	
4	+5.0V, V_{DD}	

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