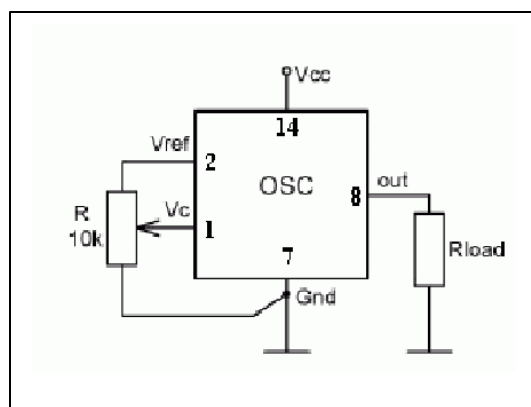


VFT14A Series

Micro-miniature, Evacuated OCXO

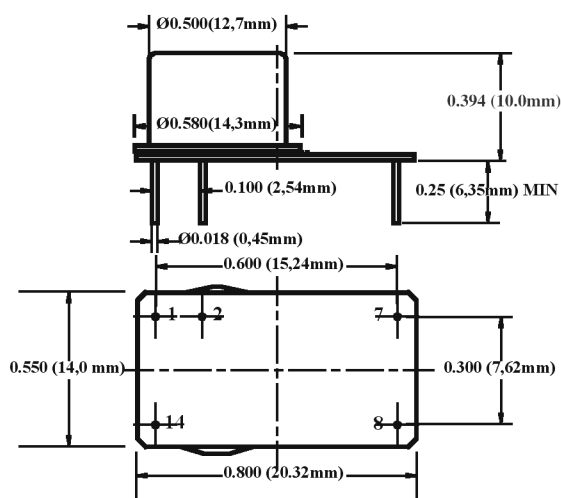
Features

- Smallest OCXO available ($< 1 \text{ cm}^3$, 2g weight)
- SC-cut crystal
- High Vacuum Sealed Enclosure
- Extremely Low Power Consumption ($< 100 \text{ mW}$)
- Very Fast Warm-up Time (30s)
- High Stability (up to $\pm 5 \times 10^{-9}$ over 0°C to 50°C)
- Low Aging ($5 \times 10^{-10}/\text{day}$, $5 \times 10^{-8}/\text{year}$)
- Very Low Phase Noise (-160 dBc/Hz TYP)
- HCMOS/TTL output, sine available
- 4.8 MHz to 180 MHz Frequencies Available
- DIL 14 compatible pinout



Applications

- Telecommunications
- Data Communications
- Battery Powered Systems and Equipment
- GPS
- Instrumentation
- SARSAT Beacons



Create a Part Number

VFT14A

FREQUENCY, MHz

S for sinewave

Temperature Range

Code	Specification
A	0°C to 50°C
B	-10°C to 60°C
C	0°C to 70°C
D	-20°C to 70°C
E	-30°C to 70°C
F	-40°C to 85°C

Temperature Stability

Code	Specification
17	1×10^{-7}
58	5×10^{-8}
28	2×10^{-8}
18	1×10^{-8}
59	5×10^{-9}
YZ	$Y \times 10^{-Z}$

Aging

Code	Specification
L	$1 \times 10^{-9}/\text{Day}$
S	$5 \times 10^{-10}/\text{Day}$

Supply Voltage

Code	Specification
5	$5\text{V} \pm 5\%$
3	$3.3\text{V} \pm 5\%$

Not all combinations are available. Consult Factory.

VFT14A Series

Micro-miniature, Evacuated OCXO

Specifications:

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
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Absolute Maximum Ratings

Input Break Down Voltage	V _{cc}		-0.5		7.0	V	
Storage temper.	T _s		-40		85	°C	
Control Voltage	V _c		-1		6	V	

Electrical

Frequency	F		4.8	10.000	180	MHz		All parameters for 10 MHz
Frequency stability	$\Delta F/F$	vs. Temp.		±50		ppb	See chart below	
		vs. Supply		1	5	ppb/V		
Aging		per day per year		5E-10 1E-7			after 30 days	
Allan Variance		.1s to 10s		1E-11				
SSB Phase Noise		10 Hz 100 Hz 10 KHz		-120 -145 -160		dBc/Hz	Deteriorates by 20LogN for higher freq.	
Retrace		After 30 minutes			±20	ppb		
G-sensitivity		worst direction			±1.0	ppb/G		
Input Voltage	V _{cc}		4.75	5.0	5.25	V	3.3V±5% optional	
Input Current	I _{cc}	steady state, 25°C steady state, -30°C start-up current		25/35 70/100 100/150	35/45	mA	5V/3.3 supply	
Load		10KOhm//15pF						
Warm-up time	τ	to 0.1ppm accuracy		35		s	40s at 3.3V supply	
Output Waveform		3.3V HCMOS/TTL compatible					Sine wave available	
Tristate Control		Logic “high” or floating – active; logic “low” – infinite impedance						
Control voltage	V _c		0		4.1	V		
Pull range		from nominal F	±0.5	±1		ppm		
Deviation slope		Monotonic, posit		0.4		ppm/V		
Setability	V _{c0}	@25°C, F _{nom} .	1.0	2.0	3.0	V		

Environmental and Mechanical

Operating temp. range	-30°C to 70°C Standard, Other options – see chart below						
Mechanical Shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 5G to 2000 Hz						
Soldering Conditions	Leads Temperature 260°C, for 10s, Max						
Hermetic Seal	Leak rate less than 1x10 ⁻⁸ atm.ccm/s of helium, TO-8 only						

Electrical Connections

Pin Out	Pin 1- V _c ; Pin 7- Case, GND; Pin8 – Output; Pin 14 - V _{cc}
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Rev 12/05

