

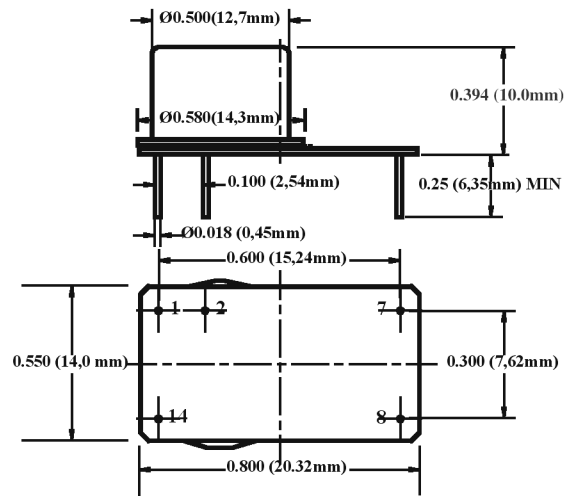
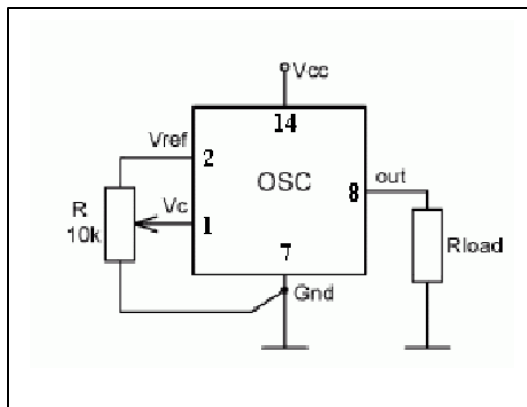
VFT14A Series Micro-miniature, Evacuated OCXO

Features

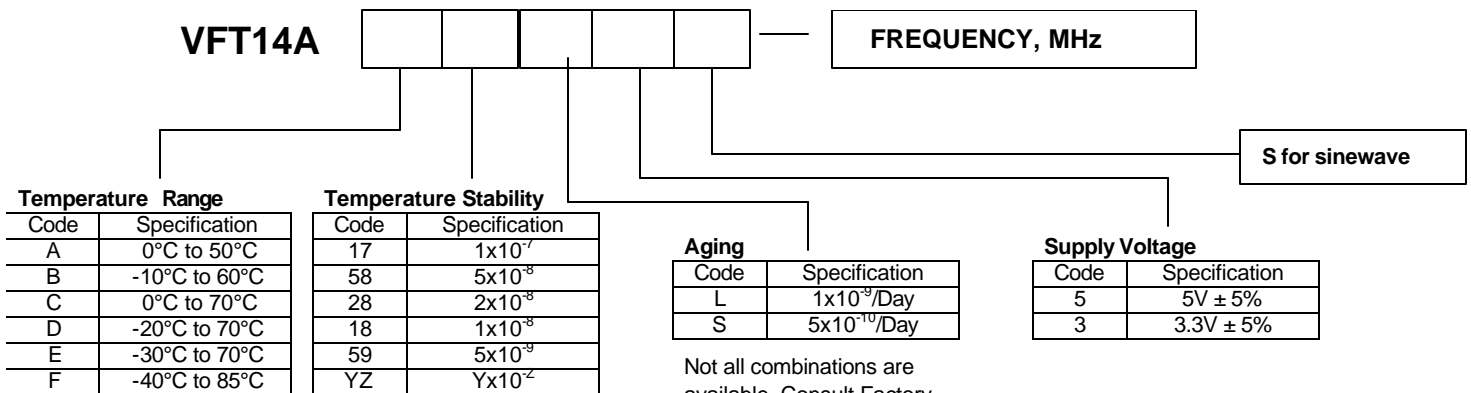
- Smallest OCXO available (< 1 cm³, 2g weight)
- SC-cut crystal
- High Vacuum Sealed Enclosure
- Extremely Low Power Consumption (<100 mW)
- Very Fast Warm-up Time (30s)
- High Stability (up to $\pm 5 \times 10^{-9}$ over 0°C to 50°C)
- Low Aging (5×10^{-10} /day, 5×10^{-8} /year)
- Very Low Phase Noise (-160dBc/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 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	Vcc		-0.5		7.0	V	
Storage temper.	Ts		-40		85	°C	
Control Voltage	Vc		-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		5E-10			after 30 days	
		per year		1E-7				
Allan Variance		.1s to 10s		1E-11				
SSB Phase Noise		10 Hz		-120		dBc/Hz	Deteriorates by 20LogN for higher freq.	
		100 Hz		-145				
		10 KHz		-160				
Retrace		After 30 minutes			± 20	ppb		
G-sensitivity		worst direction			± 1.0	ppb/G		
Input Voltage	Vcc		4.75	5.0	5.25	V	3.3V \pm 5% optional	
Input Current	Icc	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	Vc		0		4.1	V		
Pull range		from nominal F	± 0.5	± 1		ppm		
Deviation slope		Monotonic, posit		0.4		ppm/V		
Setability	Vc0	@25°C, Fnom.	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 1×10^{-8} atm.ccm/s of helium, TO-8 only						

Electrical Connections

Pin Out	Pin 1- Vc; Pin 7- Case, GND; Pin8 – Output; Pin 14 - Vcc						
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Rev 12/05

