

VFTDR Series

Double Oven Ultra Precision OCXO

Product Data Sheet



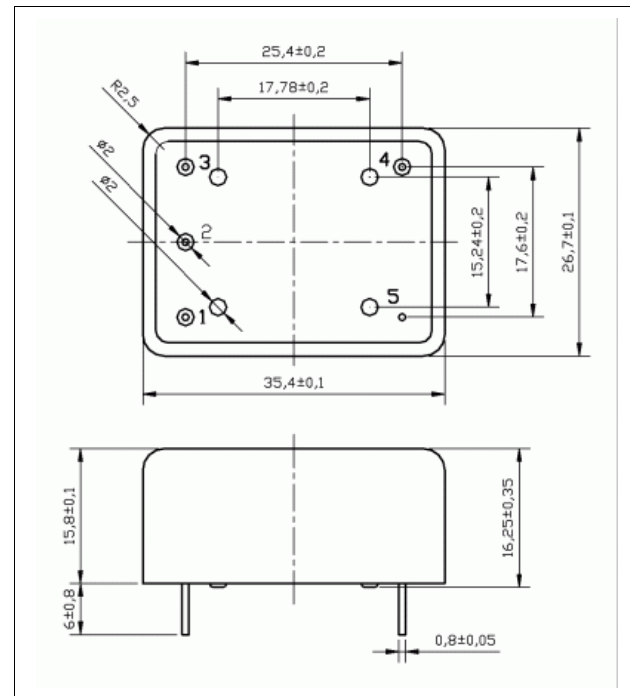
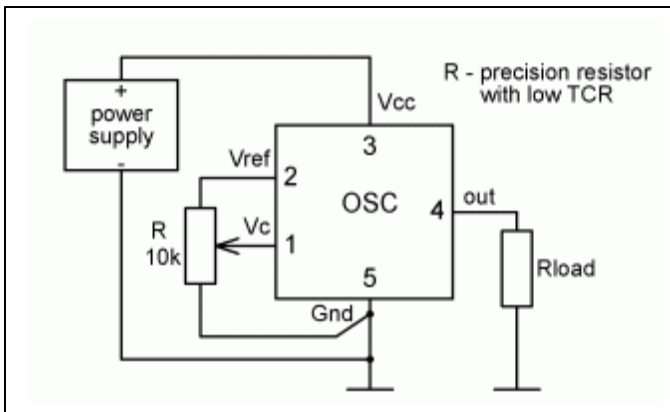
Features

- Smallest Size (1" x 1" x 0.5")
- Lowest Power Consumption (1W_a)
- Fastest Warm-up Time (5 min) in its class
- Superb Frequency Stability ($\pm 1 \times 10^{-0}$ over temp)
- Low Aging (2×10^{-10} /day, 2×10^{-8} /year)
- HCMOS/TTL or Sine Wave output
- Standard Frequencies: 5 MHz, 10 MHz, 12.8 MHz



Applications

- Telecommunication Systems
- Data Communications
- Stratum 11, 111E⁺
- Rubidium standard replacement



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Specifications:

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
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Absolute Maximum Ratings

Input Break Down Voltage	Vcc		-0.5		13.0	V	
Storage temper.	Ts		-40		85	°C	
Control Voltage	Vc		-1		9	V	

Electrical

Frequency	F		5.000	10.000	12.800	MHz		
Frequency stability	ΔF/F	vs. Temp.		±10		ppb	All parameters for 10 MHz	
		vs. Supply		1	5	ppb/V		
Aging		per day per year		2E-10 2E-8				after 30 days of operation
Allan Variance		.1s to 10s		1E-11				
SSB Phase Noise		10 Hz		-120		dBc/Hz		
		100 Hz		-150				
		10 KHz		-150				
Retrace		After 30 minutes			±1	ppb		
G-sensitivity		worst direction			±1.0	ppb/G		
Input Voltage	Vcc		4.75	5.0	5.25	V		12V±5% optional
Power consumption	P	steady state, 25°C		1.0	1.2	W		
		steady state, -30°C		2.0				
		start-up @ -30°C		2.5				
Load		10KOhm//15pF (HCMOS/TTL), 50 Ohm (Sinewave)						
Warm-up time	τ	to 0.01ppm accuracy			5	minutes		
Output Waveform		3.3V HCMOS/TTL compatible or Sinewave (>+7dBm)					-25dBm Harmonics at sine	
Control voltage	Vc		0		4.0	V	Option "V"	
Pull range		from nominal F	±0.5	±1		ppm	Option "V"	
Deviation slope		Monotonic, posit		0.4		ppm/V	Option "V"	
Setability	Vc0	@25°C, Fnom.	1.0	2.0	3.0	V	Option "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	230°C for 10s Max

Electrical Connections

Pin Out	Pin #1- Output; Pin #2- GND; Pin #3- Vc; Pin #4 - Vref ; Pin#5 - Vcc – 1 inch square Pin#1 – Vc; Pin#2 – Vref; Pin#3 – Vcc; Pin#4 – Output; Pin#5 – GND – "europack"
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Creating a Part Number

