

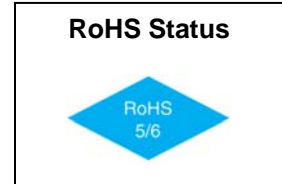
VFTDR Series

OCXO – Double Oven

Europack, HCMOS/SINE

Features

- Stratum 2 Compliant
- Standard Frequencies: 10 MHz, 12.8MHz
- ± 0.5 ppb frequency stability over temperature
- Ultra Low Jitter and Phase Noise



Applications

- Telecommunication Systems
- Rubidium Standard Replacement
- Data Communications

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		8.0	10.0	13.8	MHz	
Frequency Stability	$\Delta F/F$	Vs. Operating Temperature 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			± 0.1 ± 0.2 ± 0.5 ± 0.5 ± 1.0	ppb	See How to Order Chart
		Vs. Supply Voltage Vs. Aging / Day Vs. Aging / Year		± 0.2 0.2 20		ppb/V ppb ppb	After 30 days
Operating Temperature Range	T		0° -10° 0° -20° -30°		+50° +60° +70° +70° +70°	°C	Order Code A Order Code B Order Code C Order Code D Order Code E
Output		Signal Level	HCMOS / TTL / SINE 4V (HCMOS/TTL), +7dBm min (Sine)				
Supply Voltage	Vcc		4.75 11.4	5.0 12.0	5.25 12.6	V	Order Code 5 Order Code 2

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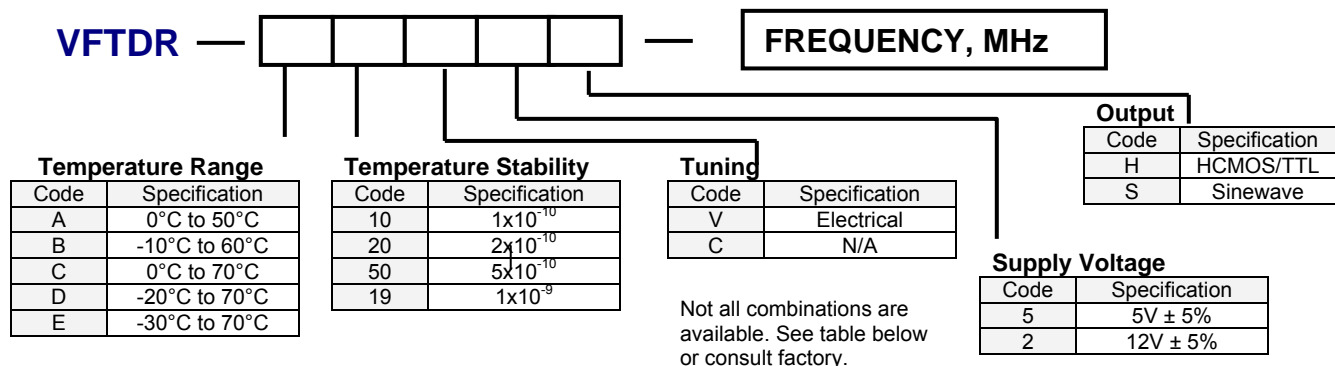
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Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Load		50 Ohm (Sinewave), 10KOhm / 15pF (CMOS/TTL)					
Warm up time		To 0.01ppm accuracy		2	3	min	
SSB Phase Noise		10Hz 100Hz 10KHz		-125 -148 -165		dBc/Hz	@ 10MHz
Retrace		After 30 minutes			± 1.0	ppb	
G-sensitivity		Worst direction			± 1.0	ppb/g	
Power Consumption	P	Steady State @ 25°C Steady State @ -30°C Start-Up @ -30°C		1.0 2.0 3.5	1.2 2.2 4.0	W	
Control Voltage	Vc		0		4.0	V	
Pullability			± 0.5	± 1		ppm	
Deviation slope		Monotonic, positive		0.4		ppm/V	
Setability	Vco	@25C, Fnom.	1.0	2.0	3.0	V	

How to Order



Available Frequency Stabilities over Operating Temperature Ranges

Code	Temperature Range	1x10 ⁻⁹	5x10 ⁻¹⁰	2x10 ⁻¹⁰	1x10 ⁻¹⁰
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	*	*	*	*



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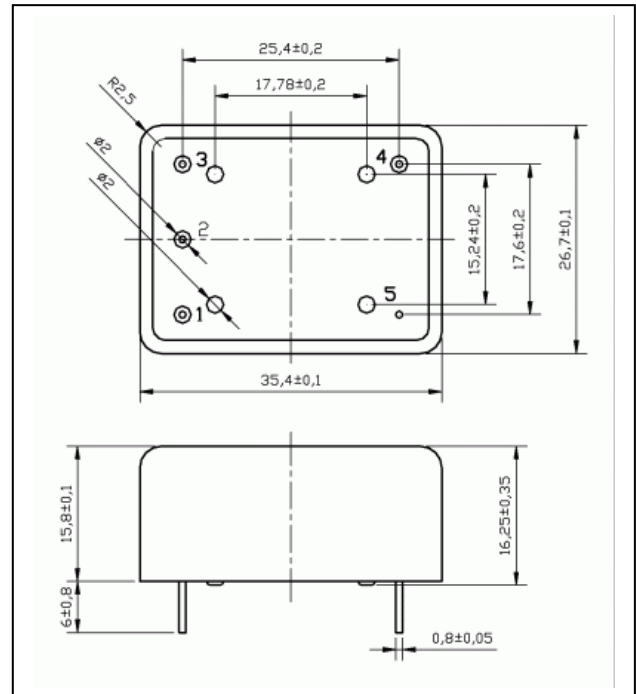
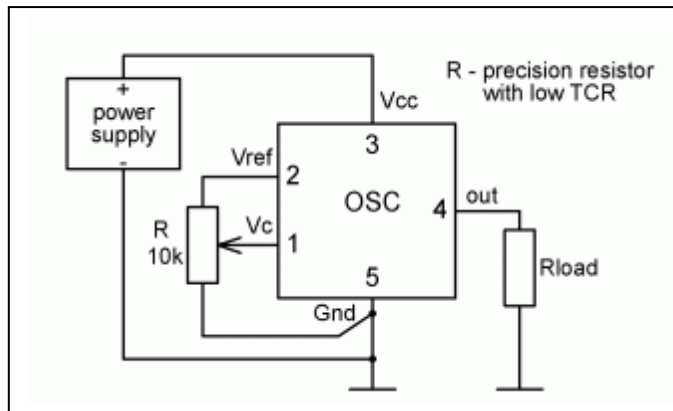
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Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	Vcc	5V Model 12V Model	-0.5 -0.5		+7.0 +15.0	V	
Storage Temperature	Ts		-40		+85°	°C	
Control Voltage	Vc		-1		9	V	

Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 5G to 500Hz
Soldering Conditions	260°C for 10s max



Pin #	Connection
1	Vc
2	Vref
3	Vcc
4	Output
5	GND