



5x7mm Precision TCXO Model D75F

**CONNOR
WINFIELD**



2111 Comprehensive Drive

Aurora, Illinois 60505

Phone: 630-851-4722

Fax: 630-851-5040

www.conwin.com

US Headquarters:

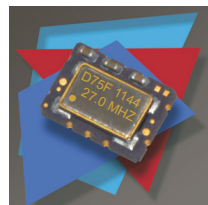
630-851-4722

European Headquarters:

+353-61-472221

Description:

The Connor-Winfield's D75F is a 5x7mm Surface Mount Temperature Compensated Crystal Controlled Oscillator (TCXO) with a Tri-State LVC MOS output. Through the use of Analog Temperature Compensation, the D75F is capable of holding sub 1-ppm stabilities over the 0 to 70°C temperature range.



Features:

- 3.3 Vdc Operation
- LVC MOS Output
- Frequency Stability: ± 0.50 ppm
- Temperature Range: 0 to 70°C
- Low Jitter <1ps RMS
- Tri-State Enable/Disable Function
- 5x7mm Surface Mount Package
- Tape and Reel Packaging
- RoHS Compliant / Pb Free

Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-55	-	85	°C	
Supply Voltage (Vcc)	-0.5	-	6.0	Vdc	
Input Voltage	-0.5	-	Vcc+0.5	Vdc	

Operating Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Nominal Frequency (Fo)	-	13.0, 19.44, 25.0 or 27.0	-	MHz	
Frequency Calibration @ 25 °C	-1.0	-	1.0	ppm	1
Frequency Stability vs. Temperature	-0.5	-	0.5	ppm	2
Frequency vs. Load Stability	-0.2	-	0.2	ppm	$\pm 5\%$
Frequency vs. Voltage Stability	-0.2	-	0.2	ppm	$\pm 5\%$
Static Temperature Hysteresis	-	-	0.4	ppm	3
Aging	-1.0	-	1.0	ppm/year	
Operating Temperature Range:	0	-	70	°C	
Supply Voltage (Vcc)	3.135	3.3	3.465	Vdc	$\pm 5\%$
Supply Current (Icc)	-	-	6	mA	
Period Jitter	-	3	5	ps rms	
Integrated Phase Jitter	-	0.5	1.0	ps rms	4
SSB Phase Noise (Fo = 19.44 MHz)					
@ 10Hz offset	-	-80	-	dBc/Hz	
@ 100Hz offset	-	-110	-	dBc/Hz	
@ 1KHz offset	-	-135	-	dBc/Hz	
@ 10KHz offset	-	-150	-	dBc/Hz	
@ 100KHz offset	-	-150	-	dBc/Hz	
Start-up Time	-	-	10	ms	

Enable / Disable Input Characteristics (Pad 8)

Parameter	Minimum	Nominal	Maximum	Units	Notes
Enable Voltage (High)	70%Vcc	-	-	Vdc	5
Disable Voltage (Low)	-	-	30%Vcc	Vdc	5

LVC MOS Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load	-	15	-	pF	6
Voltage (High) (Voh)	90%Vcc	-	-	Vdc	
(Low) (Vol)	-	-	10%Vcc	Vdc	
Duty Cycle at 50% of Vcc	45	50	55	%	
Rise / Fall Time 10% to 90%	-	-	8	ns	

Package Characteristics

Package Hermetically sealed crystal mounted on a ceramic package

Environmental Characteristics

Vibration: Vibration per Mil Std 883E Method 2007.3 Test Condition A
Shock: Mechanical Shock per Mil Std 883E Method 2002.4 Test Condition B.
Soldering Process: RoHS compliant lead free. See soldering profile on page 2.

Ordering Information

D75F-13.0M, D75F-19.44M, D75F-25.0M or D57F-027.0M

Notes:

1. Initial calibration @ 25°C. Specifications at time of shipment after 48 hours of operation.
2. Frequency stability vs. change in temperature. $[\pm(F_{max} - F_{min})/(2 \cdot F_0)]$.
3. Frequency change after reciprocal temperature ramped over the operating range. Frequency measured before and after at 25°C.
4. BW = 12 KHz to 20 MHz.
5. Leave Pad 8 unconnected if enable / disable function is not required. When tri-stated, the output stage is disabled but the oscillator and compensation circuit are still active (current consumption < 1 mA).
6. For best performance it is recommended that the circuit connected to this output should have an equivalent input capacitance of 15pF.



Pad Connections