

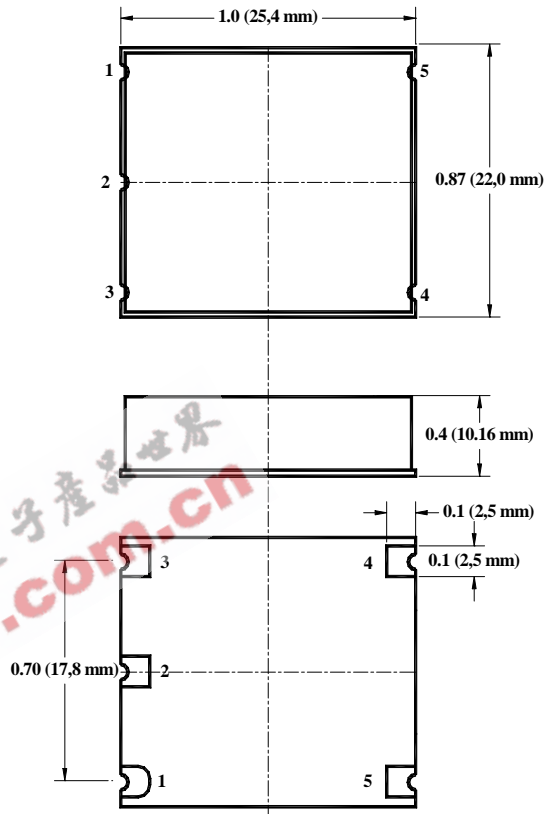
**OF-XBAXXXX Series**  
**UHF SMD TCVCXO**

Rev. B

**Description:** The OF-XBAXXXX Series of SMD temperature compensated, voltage controlled crystal oscillators (TCVCXO), provides Ultra High Frequency with excellent temperature stability, low phase noise in a small surface mount FR4 based package.

**Features**

- Small, Low Profile SMD Package
- Low Phase Jitter and Phase Noise
- Excellent Frequency Stability
- Ultra High Frequency – up to 2.5 GHz
- Sine-Wave output
- Stratum3 available



**Creating a Part Number**

**OF - X BA X XX X**

**Package Code**  
OF 5 Pad 25x22mm SMD

**Supply Voltage**

Code	Specification
0	5V ±5%
A	3.3V ±5% *

**TCXO/TCVCXO Option**

Code	Specification
X	No V. Control
V	W/ V. Control

**Temperature Range**

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

**Temp. Frequency Stability**

Code	Specification
1	±1.0 ppm
2	±2.5 ppm
3	±0.28 ppm

## OF-XBAXXXX Series UHF SMD TCVCXO

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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		5.5	V	
Storage temp.	Ts		-40		105	°C	
Contr. Voltage	Vc		-1		9	V	

### Electrical

Frequency Range	F		1.0		2.5	GHz	
Input Voltage	Vcc		3.135 4.75	3.30 5.0	3.465 5.25	V	3* 5
Input Current	Icc	+3dBm Output			100	mA	
Frequency Stab.	$\Delta F/F$	Overall, available			$\pm 4.6$		20 years
Frequency Stability	$\Delta F/F$	vs. Temperature vs. Vcc aging		$\pm 0.5$ $\pm 0.1$ $\pm 1$ $\pm 3.5$	$\pm 1$	ppm ppm/V ppm/year ppm	See chart First Year 10 years
Calibration	$\Delta F/F$	As shipped, 25°C		$\pm 0.5$	$\pm 1$	ppm	
Load			Internally AC-coupled 50 Ohm				
Output power	P	Into 50 Ohm	0	3		dBm	Higher Power available, consult factory
Start up time	Ts			2	10	ms	
Jitter		12KHz to 20MHz, RMS			1.0	ps	
Subharmonics					none		
Spurious					-60	dBc	
Harmonics		Sine-wave		-20	-12	dBc	
SSB Phase Noise		@ 100 Hz @ 1 KHz @ 10 KHz @ 100 KHz		-80 -95 -100 -120		dBc/Hz	@ 1,000 MHz
SSB Phase Noise		@ 100 Hz @ 1 KHz @ 10 KHz @ 100 KHz		-75 -90 -98 -115		dBc/Hz	@ 2,000 MHz
Input Impedance			> 10KOhm				
Control voltage	Vc		0		3.3	V	
Modulation bandwidth	MB		100 Hz				Contact Factory for wider MB
Deviation		Vc=0V to 3.3V, 25°C	$\pm 5$	$\pm 7$		ppm	

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*Environmental and Mechanical*

<b>Operating temp. range</b>	0°C to 70°C , -40°C to 85°C, see chart, page 1
<b>Mechanical Shock</b>	Per MIL-STD-202, Method 213, Cond. E
<b>Thermal Shock</b>	Per MIL-STD-883, Method 1011, Cond. A
<b>Vibration</b>	Per MIL-STD-883, Method 2007, Cond. A
<b>Soldering Conditions</b>	See MAX reflow profile
<b>Hermetic Seal</b>	Leak rate less than $1 \times 10^{-8}$ atm.cc/s of helium (crystal only)

*Electrical Connections*

<b>Pin Out</b>	Pin #1- Voltage Control ; Pin #2 – N/C ; Pin #3 – Vcc; Pin#4 – Output; Pin #5 – GND
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\* Note: 3.3V supply is not available for all frequencies and performance. Please consult factory

**Maximum solder reflow profile**

