

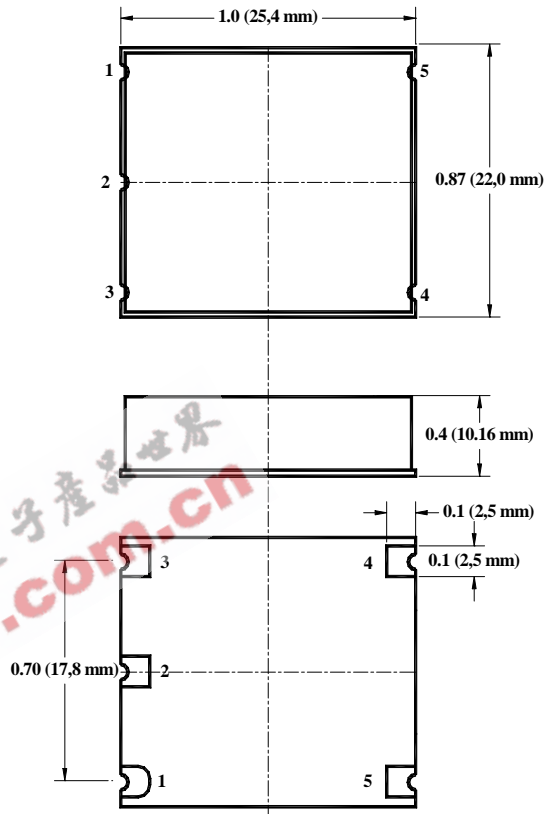
OF-XBAXXXX Series
UHF SMD TCVCXO

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 |

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Specifications

| Parameter | Symb | Condition | Min | Typ | Max | Unit | Note |
|-----------|------|-----------|-----|-----|-----|------|------|
|-----------|------|-----------|-----|-----|-----|------|------|

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 | | | ± 4.6 | | 20 years |
| Frequency Stability | $\Delta F/F$ | vs. Temperature vs. Vcc aging | | ± 0.5 ± 0.1 ± 1 ± 3.5 | ± 1 | ppm ppm/V ppm/year ppm | See chart First Year 10 years |
| Calibration | $\Delta F/F$ | As shipped, 25°C | | ± 0.5 | ± 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 | ± 5 | ± 7 | | ppm | |



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Environmental and Mechanical

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

Electrical Connections

| | |
|----------------|---|
| Pin Out | Pin #1- Voltage Control ; Pin #2 – N/C ; Pin #3 – Vcc; Pin#4 – Output; Pin #5 – GND |
|----------------|---|

* Note: 3.3V supply is not available for all frequencies and performance. Please consult factory

Maximum solder reflow profile

