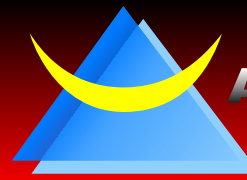


# T2B SERIES

- 5mm x 3.2mm Ceramic SMD 4 Pads VCTCXO
- 5.0V, 3.0V
- Clipped Sinewave
- Stability Down to  $\pm 0.5$ ppm



**ASCEND**

FREQUENCY DEVICES

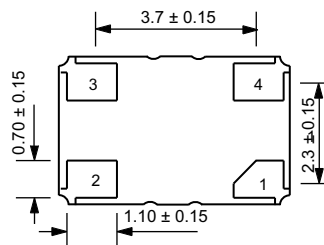
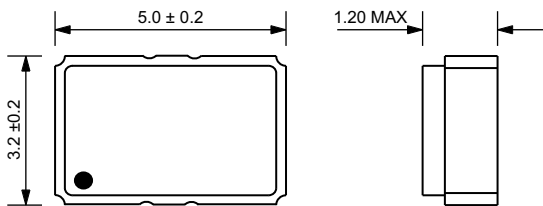
## Electrical Specifications

|   |  |   |
|---|--|---|
| Frequency Range:                        | -  | 10.000MHz to 40.000MHz  |
| Operating Temperature Range:            | -  | See options   |
| Frequency Tolerance                     | 25°C $\pm 2^\circ\text{C}$                           | $\pm 1$ ppm (Vdd = 5.0V or 3.0V, Vc = 1.5Vdc)   |
| Temperature Stability:                  | -  | See options - Vs Supply Voltage ( $\pm 5\%$ ) change = $\pm 0.2$ ppm, Vs Load ( $\pm 10\%$ ) = $\pm 0.2$ ppm, Vs Aging = $\pm 1.0$ ppm/yr |
| Supply Voltage (Vdd):                   | $\pm 5\%$  | 3.0Vdc or 5.0Vdc  |
| Supply Current:                         | -  | 2.0mA Maximum   |
| Output Type:                            | -  | Clipped Sinewave  |
| External Trim (Voltage Control Option): | -  | 1.5Vdc $\pm 1.0$ Vdc; Positive Transfer Characteristic  |
| Harmonics                               | -  | -10dBc Maximum  |
| Output Level:                           | -  | 0.8 Vp-p minimum  |
| Output Load:                            | -  | 10K Ohms // 10pF  |
| Frequency Tuning Range:                 | -  | See options - $\pm 3$ ppm to $\pm 25$ ppm   |
| Phase Noise:                            | at 100Hz offset<br>at 1kHz offset<br>at 10kHz offset | -115dBc/Hz Maximum<br>-135dBc/Hz Maximum<br>-148dBc/Hz Maximum  |
| Start-up Time:                          |  | 2mSec Maximum   |
| Storage Temperature Range:              |  | -40°C to +85°C  |

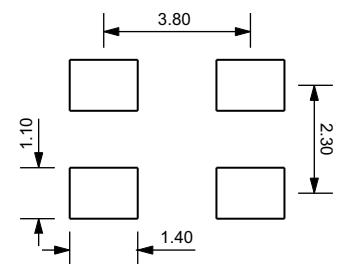
## Environment / Mechanical

|                     |   |
|---------------------|---|
| Shock:              | MIL-STD-833, Method 2002, Condition B   |
| Solderability:      | MIL-STD-833, Method 2003                |
| Solvent Resistance: | MIL-STD-833, Method 215                 |
| Vibration:          | MIL-STD-833, Method 2007, Condition A   |
| Gross Leak Test:    | MIL-STD-833, Method 1014, Condition C   |
| Fine Leak Test:     | MIL-STD-833, Method 1014, Condition A-2 |

## Mechanical Dimensions



### Solder Pad Layout



| Pad | FUNCTION                  |
|-----|---------------------------|
| 1   | Voltage Control, GND:TCXO |
| 2   | Ground                    |
| 3   | Output                    |
| 4   | Supply Voltage            |

### MARKING

Line 1: AXX.XXX  
Line 2: XXXXXX (Date Code)

External Bypass Capacitor is Recommended

ALL DIMENSIONS  
IN MILLIMETERS

## Part Numbering Guide

**T2B 3 S 15 A 2 - 33.000M TR**

### Series

5.0x3.2 Ceramic SMD 4 Pads VCTCXO

### Supply Voltage

3 = 3.0V  
5 = 5.0V

### Output Type

S = Clipped Sinewave

### Frequency Stability

05 =  $\pm 0.5$ ppm    25 =  $\pm 2.5$ ppm  
10 =  $\pm 1.0$ ppm    30 =  $\pm 3.0$ ppm  
15 =  $\pm 1.5$ ppm    40 =  $\pm 4.0$ ppm  
20 =  $\pm 2.0$ ppm    50 =  $\pm 5.0$ ppm

### Frequency Stability vs. Temp. Range

| Temp (°C) / ppm  | $\pm 0.5$ ppm | $\pm 1.0$ ppm |
|------------------|---------------|---------------|
| A 0°C to +55°C   | O             | O             |
| B -10°C to +60°C | Y             | O             |
| C -20°C to +70°C | X             | O             |
| E -40°C to +85°C | X             | O             |

O: Standard  
Y: Check Availability  
X: Not Available

### Packaging

Blank = Bulk  
TR = Tape and Reel

### Frequency

### Pulling Range

1 =  $\pm 5$ ppm    5 =  $\pm 15$ ppm  
2 =  $\pm 8$ ppm    6 =  $\pm 20$ ppm  
3 =  $\pm 10$ ppm    7 =  $\pm 25$ ppm  
4 =  $\pm 12$ ppm    8 = TCXO

Vcon Range: 0.5V to 2.5V

### Operating Temp Range

A = 0°C to +55°C  
B = -10°C to +60°C  
C = -20°C to +70°C  
D = -30°C to +85°C  
E = -40°C to +85°C



(Rev. B / 05-10-07)

Specifications subject to change without notice