

## Dynamic Engineers Inc.

2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

### **Features and Benefits**

Frequency range: 12.8MHz Supply voltage: 5.0V Steady current: 2mA Max Output waveform: Clipped Sinewave Frequency stability vs. operating temperature: ±1.5ppm Aging: ±1.0ppm per year Phase noise@100KHz: -150dBc/Hz Operating temperature: -40°C to +85°C Size: 11.4x9.6x1.85mm

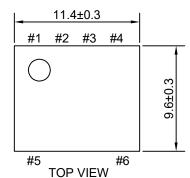
#### **Typical Applications**

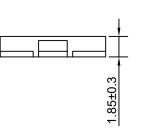
UHF Synthesizers SATCOM System Portable Microwave Applications

#### Description

TCXO1196BE-12.8MHz-A offers wide temperature operation with outstanding frequency stability and low phase noise performance.

## **Mechanical Drawing & Pin Connections**





7.62±0.3 #5 #6 #1 #2 #3 #4 1.2±0.3 BOTTOM VIEW E **Pin Connections** 

| Pin        | Function       |  |  |  |  |  |
|------------|----------------|--|--|--|--|--|
| 1          | Supply Voltage |  |  |  |  |  |
| 2          | N.C. or V.C.   |  |  |  |  |  |
| 3          | GND            |  |  |  |  |  |
| 4          | Output         |  |  |  |  |  |
| 5          | GND            |  |  |  |  |  |
| 6          | GND            |  |  |  |  |  |
| Unit in mm |                |  |  |  |  |  |

1mm = 0.0394 inches

Dynamic Engineers, Inc.

Rev. 1

Drawing No: MI

MD240051-1

Dynamic Engineers reserves the right to make changes to the company datasheet(s) along with other information contained inside; such as data tables and araphs without notification to potential customers who may have earlier revisions in their possession.



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## **Specifications**

| Oscillator                           | Cum             | Condition         | Value                            |      |      | Unit   | Note |
|--------------------------------------|-----------------|-------------------|----------------------------------|------|------|--------|------|
| Specification                        | Sym             | Condition         | Min.                             | Тур. | Max. |        |      |
| Frequency                            | Fnom            |                   |                                  | 12.8 |      | MHz    |      |
| RF Output                            |                 |                   |                                  |      |      |        |      |
| Signal Waveform                      |                 |                   | Clipped Sinewave                 |      |      | е      |      |
| Level                                |                 |                   | 0.8                              |      |      | Vp-p   |      |
| Load                                 | 20kohms//5pF    |                   |                                  |      |      |        |      |
| Power Supply                         |                 |                   | -                                | 1    | r    |        | -    |
| Supply Voltage                       | V <sub>cc</sub> | ±5%               |                                  | 5.0  |      | V      |      |
| Input Current                        |                 |                   |                                  |      | 2.0  | mA     |      |
| Frequency Adjustment Range           |                 |                   |                                  |      |      |        |      |
| Frequency Adjustment                 |                 |                   | ±3ppm min by internal<br>trimmer |      | ppm  |        |      |
| Frequency Stability                  |                 |                   |                                  |      |      |        |      |
| Versus Operating Temperature Range   |                 | -40°C to +85°C    |                                  |      | ±1.5 | ppm    |      |
| Tolerance                            |                 | at +25⁰C          |                                  |      | ±1.0 | ppm    |      |
| Versus supply voltage                |                 | ±5% change        |                                  |      | ±0.2 | ppm    |      |
| Versus Load                          |                 | ±10% change       |                                  |      | ±0.2 | ppm    |      |
| Aging 1 <sup>st</sup> Year           |                 |                   |                                  |      | ±1.0 | ppm    |      |
| Frequency Perturbation               |                 | per every 2 °C    |                                  |      | 0.5  | ppm    |      |
| Hysteresis                           |                 |                   |                                  |      | ±0.4 | ppm    |      |
| G-sensitivity                        |                 |                   |                                  |      | 2.0  | ppb/g  |      |
|                                      |                 | 1Hz               |                                  |      | -55  | dBc/Hz |      |
|                                      |                 | 10Hz              |                                  |      | -85  | dBc/Hz |      |
| Phase noise                          |                 | 100Hz             |                                  |      | -115 | dBc/Hz |      |
|                                      |                 | 1kHz              |                                  |      | -135 | dBc/Hz |      |
|                                      |                 | 10kHz             |                                  |      | -145 | dBc/Hz |      |
|                                      |                 | 100kHz            |                                  |      | -150 | dBc/Hz |      |
| Environmental, Mechanical Conditions | 4000 10 10      | 2500              |                                  |      |      |        |      |
| Operating temperature range          | -40°C to +8     |                   |                                  |      |      |        |      |
| Storage temperature range            | -40°C to +8     | 55 <sup>-</sup> C |                                  |      |      |        |      |