



### Features and Benefits

- Frequency range: 1000MHz
- Supply voltage: 3.3V
- Steady current: 52mA Typ.
- Output waveform: PECL
- Frequency stability vs. operating temperature:  $\pm 2$ ppm
- Aging:  $\pm 2$ ppm per year
- Phase noise@10KHz: -98dBc
- Operating temperature: -40°C to +85°C
- Size: 3.2x2.5x1.6mm

### Typical Applications

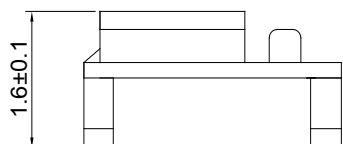
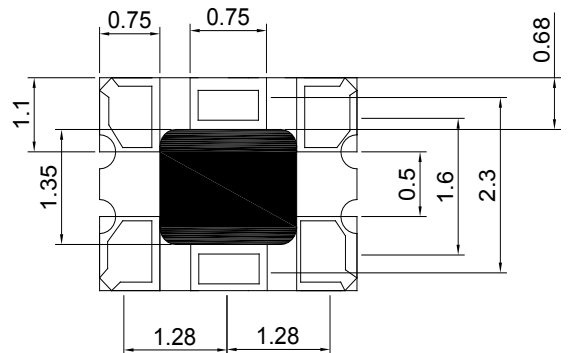
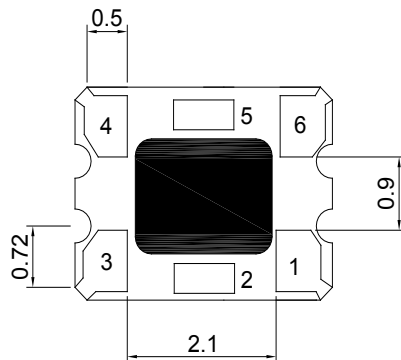
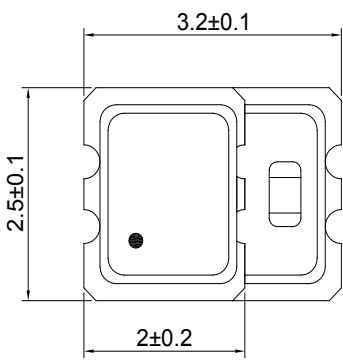
- High-Speed Gigabit Ethernet, Fiber
- Data Loggers
- DSP Clock

### Description

TCXO3225BL-1000MHz-A-V is designed for high frequency applications where exceptional frequency stability and timing is required. It has excellent temperature performance and stability. These characteristics make it an excellent choice for high frequency applications.

### Mechanical Drawing & Pin Connections

**Drawing No:** MD160046-1



Pin Connection

| Pin | Function        |
|-----|-----------------|
| 1   | Voltage Control |
| 2   | Output Enable   |
| 3   | GND             |
| 4   | Differential    |
| 5   | Complementary   |
| 6   | Vcc             |

Unit in mm  
1mm = 0.0394 inches



**Specifications**

| Oscillator Specification                 | Sym       | Condition      | Value   |      |         | Unit | Note |
|--|-----------|----------------|---|------|---------|------|------|
|  |           |                | Min.  | Typ. | Max.    |      |      |
| Operational Frequency                    | $F_{nom}$ |                |   | 1000 |         | MHz  |      |
| <b>RF Output</b>                         |           |                |   |      |         |      |      |
| Signal Waveform                          |           |                | PECL  |      |         |      |      |
| Load                                     |           |                | 50ohm into Vcc-2V or Thevenin equivalent                        |      |         |      |      |
| H-Level Voltage                          | $V_H$     |                | Vcc-1.03  |      | Vcc-0.6 |      |      |
| L- Level Voltage                         | $V_L$     |                | Vcc-1.85  |      | Vcc-1.6 |      |      |
| Rise and fall time                       |           |                | 0.2 nS. (Typical) 0.5 nS. (max.)<br>Tr / Tf: 20% ↔ 80% waveform |      |         |      |      |
| Startup time                             |           |                | 5 m sec. (max.)   |      |         |      |      |
| <b>Power Supply</b>                      |           |                |   |      |         |      |      |
| Supply Voltage                           | $V_{cc}$  | ±5%            |   | 3.3  |         | V    |      |
| Current consumption                      |           |                |   | 52   |         | mA   |      |
| Current with output disabled             |           |                |   | 18   |         | mA   |      |
| <b>Frequency Stability</b>               |           |                |   |      |         |      |      |
| Versus Operating Temperature Range       |           | -40°C to +85°C |   | ±2.0 |         | ppm  |      |
| Versus supply voltage                    |           | ±5% change     |   |      | ±0.2    | ppm  |      |
| Versus load                              |           | ±10% change    |   |      | ±0.2    | ppm  |      |
| Aging 1 <sup>st</sup> Year               |           |                |   |      | ±2.0    | ppm  | 25°C |
| Aging 10 Year                            |           |                |   |      | ±10     | ppm  | 25°C |
| Storage Temperature                      |           |                | -55°C to +150°C   |      |         |      |      |
| Phase Noise                              |           | 1KHz           |   |      | -91     | dBc  |      |
|  |           | 10KHz          |   |      | -98     | dBc  |      |
| <b>Control Voltage Function on Pad 1</b> |           |                |   |      |         |      |      |
| Control Voltage Center and Range         |           |                | +1.5V ± 1.0V  |      |         |      |      |
| Frequency Pulling Range                  |           |                | ± 8 ppm min.  |      |         |      |      |
| Linearity                                |           |                | ± 1 % typical. ± 10% max.                                       |      |         |      |      |
| <b>Output Enable Function on pad 2</b>   |           |                |   |      |         |      |      |
| OE Control                               |           |                | 70% of Vcc (min.) to enable output (open connection prohibit)   |      |         |      |      |
|  |           |                | 30% of Vcc (max.) to disable output                             |      |         |      |      |
| Output Enable Time / Disable Time        |           |                | 200 nS. Max. / 50 nS. Max.                                      |      |         |      |      |