

MV-MS660-9775E is a Temperature Compensated Oscillator (TCXO) . This TCXO is digital temperature compensated, Clipped Sine Wave output device and comes in a FR4 base with metal cover 9.7x7.5mm package.

The device is qualified to meet the JEDEC standard for Pb-Free assembly and compliant to the RoHS directive.

#### Electrical Performance

| Parameter                              | Min       | Typ                | Max       | Units  |
|----------------------------------------|-----------|--------------------|-----------|--------|
| <b>General</b>                         |           |                    |           |        |
| Output Frequency                       | 5         |                    | 52        | MHz    |
| Operating Temperature                  |           | -10/+70 to -40/+85 |           | °C     |
| Package Size                           |           | 9.7 x 7.5 x 2.1    |           | mm     |
| <b>Frequency Stability</b>             |           |                    |           |        |
| Stability Over Temperature             |           | ±0.1 to ±0.025     |           | ppm    |
| Initial Accuracy (25°C ±2°C)           |           |                    | ±0.25     | ppm    |
| Power Supply Stability (±5% Change)    |           |                    | ±0.05     | ppm    |
| Load Stability (±10% Change)           |           |                    | ±0.05     | ppm    |
| Aging (1st year)                       |           |                    | ±0.5      | ppm    |
| Aging (20 years)                       |           |                    | ±2.0      | ppm    |
| G-Sensitivity                          |           |                    | 0         | ppb/g  |
| <b>Supply</b>                          |           |                    |           |        |
| Supply Voltage (Vdd)                   | 3.14      | +3.3               | 3.47      | V      |
| Supply Current                         |           | 65                 | 80        | mA     |
| <b>Tuning</b>                          |           |                    |           |        |
| Tuning (Pull) Range                    |           | No Tuning          |           | ppm    |
| <b>Output</b>                          |           |                    |           |        |
| Output Signal                          |           | Clipped Sine Wave  |           |        |
| Output Level - Logic High              | Vdd x 0.9 |                    |           | V      |
| Output Level - Logic Low               |           |                    | Vdd x 0.1 | V      |
| Output Load                            |           | 10KΩ    10pF       |           |        |
| Output Rise and Fall Time              |           |                    | 6         | ns     |
| Duty Cycle                             | 45        |                    | 55        | %      |
| <b>Phase Noise &amp; Jitter</b>        |           |                    |           |        |
| Phase Noise: (19.2 MHz)                |           |                    |           |        |
| 1 Hz offset                            |           | -75                |           | dBc/Hz |
| 10 Hz offset                           |           | -105               |           | dBc/Hz |
| 100 Hz offset                          |           | -123               |           | dBc/Hz |
| 1kHz offset                            |           | -145               |           | dBc/Hz |
| 10kHz offset                           |           | -150               |           | dBc/Hz |
| 100kHz offset                          |           | -150               |           | dBc/Hz |
| Jitter                                 |           |                    |           |        |
| RMS Jitter: (12kHz - 20MHz) - 19.2 MHz |           | 0.30               |           | ps     |

**Maximum Ratings**

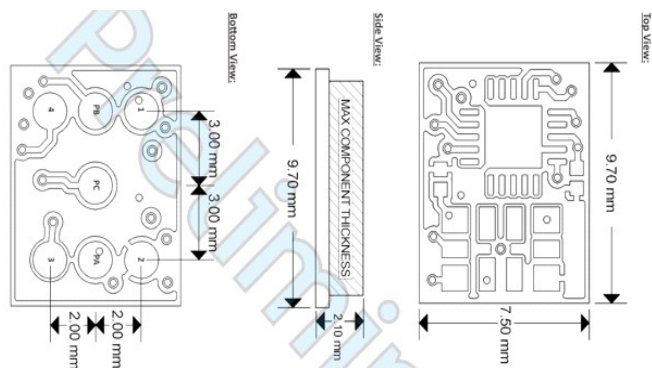
|                |                |
|----------------|----------------|
| Storage Temp   | -55°C to 125°C |
| Supply Voltage | 0V to +4.0V    |

**Maximum Ratings Notes:**

- 1 Stresses in excess of the absolute maximum ratings can permanently damage the device.
- 2 Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

**Package Information**

| Pin # | Function                   |
|-------|----------------------------|
| Pin 1 | Vc = Control Voltage or NC |
| Pin 2 | GND = Ground               |
| Pin 3 | OUT = Output               |
| Pin 4 | Vdd = Supply Voltage       |


**Handling and Construction**

|                            |                           |
|----------------------------|---------------------------|
| Package Construction       | FR4 base with metal cover |
| Contact Pads               | Gold over Nickle          |
| Moisture Sensitivity Level | MSL 1                     |
| ESD, Human Body Model      | 500V                      |
| ESD, Charge Device Model   | 500V                      |

**Ordering Information**
**MV-MS660-9775E -**
**B x x x**
**- xxMxxxxxx**

TCXO, Clipped Sine Wave

9.7 x 7.5 x 2.1mm, 7 Pins

① ② ③ ④

Frequency

① Voltage

B: 3.3 V

② Temp Range

J: -10/+70 °C

H: -20/+70 °C

K: -40/+85 °C

③ Temp Stability

U: ±0.1 ppm

④ Tuning Range

X: No Tuning