

MV-TS648-7050T is a Temperature Compensated Crystal Oscillator (TCXO) . This TCXO is analog temperature compensated, Clipped Sine Wave output device and comes in a FR4 base 7.0x5.0mm package. This device contains an internal voltage regulator resulting in excellent power supply rejection ratio.

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
Frequency Stability				
Stability Over Temperature		±0.5 to ±0.1		ppm
Initial Accuracy (25°C ±2°C)			±2.0	ppm
Power Supply Stability (±5% Change)			±0.1	ppm
Load Stability (±10% Change)			±0.05	ppm
Aging (1st year)			±1.0	ppm/year
Start Up Time			2	ms
Package Size		7.0 x 5.0 x 2.0		mm
<b>Supply</b>				
Supply Voltage (Vdd)		+2.8 to +5.0		V
Supply Current			3.5	mA
<b>Tuning</b>				
Tuning (Pull) Range		±5 to ±12		ppm
Tuning Slope		Positive		
Control Voltage to reach Pull Range	0.5		2.5	V
Control Voltage Impedance	100			KΩ
<b>Output</b>				
Output Signal		Clipped Sine Wave		
Output Level	0.8			V
Output Load		10KΩ    10pF		
<b>Phase Noise &amp; Jitter</b>				
Phase Noise: (10 MHz)				
10 Hz offset		-99		dBc/Hz
100 Hz offset		-126		dBc/Hz
1kHz offset		-145		dBc/Hz
10kHz offset		-152		dBc/Hz
100kHz offset		-155		dBc/Hz

### Notes:

- 1 Power Supply pin should be filtered. e.g. 0.1µF or 0.01 µF Capacitor for optimal performance.

**Maximum Ratings**

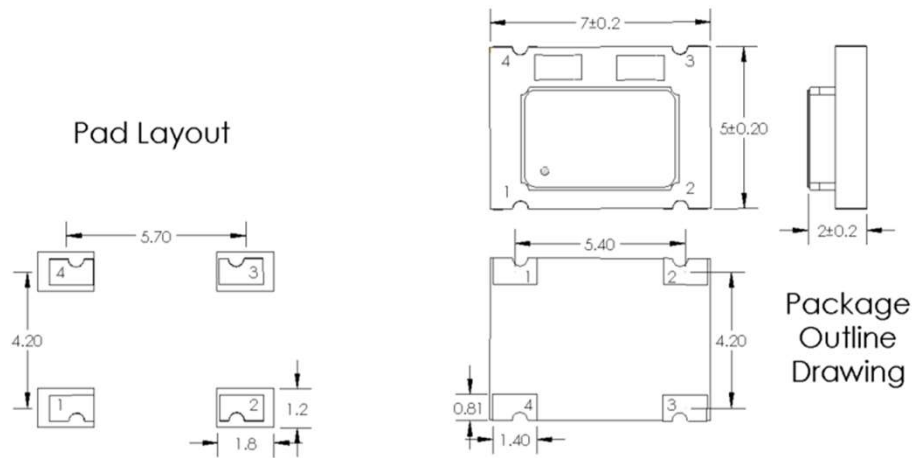
Storage Temp	-55°C to 125°C
Supply Voltage	-0.6V to +6.0V
Control Voltage	-0.6V to +Vdd+0.6V
Enable/Disable Voltage	-0.6V to +Vdd+0.6V

**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
Moisture Sensitivity Level	MSL 1
ESD, Human Body Model	1500V
ESD, Charge Device Model	1000V

Ordering Information

## MV-TS648-7050T -

TCXO, Clipped Sine Wave   
 7.0 x 5.0 x 2.0mm, 4 Pins 

**X X X X**  
 ① ② ③ ④

- **xxMxxxxx**  
 Frequency

① Voltage

A: 5.0 V  
 B: 3.3 V  
 H: 3.0 V  
 C: 2.8 V

② Temp Range

J: -10/+70 °C  
 H: -20/+70 °C  
 K: -40/+85 °C

③ Temp Stability

R: ±0.5 ppm  
 S: ±0.28 ppm  
 T: ±0.2 ppm  
 U: ±0.1 ppm

④ Tuning Range

X: No Tuning  
 L: ±5 ppm  
 K: ±8 ppm  
 J: ±10 ppm  
 H: ±12 ppm

**Part Number Configuration Notes:**

- For Temp above -20/+70 stabilities up to ±0.20ppm available.