

MV-TC647-7050T is a Temperature Compensated Crystal Oscillator (TCXO) . This TCXO is analog temperature compensated, CMOS 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
General				
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
Supply				
Supply Voltage (Vdd)		+2.8 to +5.0		V
Supply Current			6.0	mA
Tuning				
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
Output				
Output Signal		CMOS		
Output Logic Level				
Output Level - Logic High	Vdd x 0.9			V
Output Level - Logic Low			Vdd x 0.1	V
Output Load		15 pF		
Output Rise and Fall Time			4	ns
Duty Cycle	45		55	%
Phase Noise & Jitter				
Phase Noise: (10 MHz)				
10 Hz offset		-102		dBc/Hz
100 Hz offset		-128		dBc/Hz
1kHz offset		-147		dBc/Hz
10kHz offset		-154		dBc/Hz
100kHz offset		-156		dBc/Hz

Notes:

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

Maximum Ratings

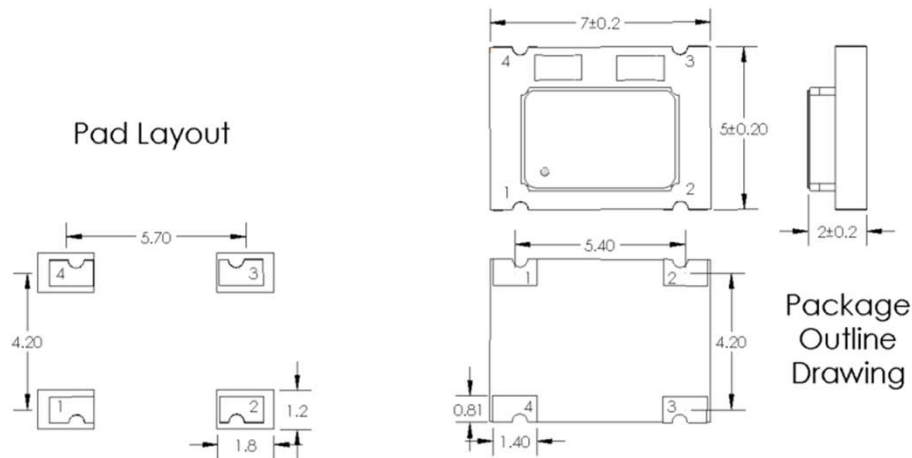
Storage Temp	-55°C to 125°C
Supply Voltage	-0.6V to +6.0V
Control Voltage	-0.6V to +Vdd+0.6V
Enable/Disable Voltage	-0.6V to +Vdd+0.6V

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-TC647-7050T -

TCXO, CMOS
7.0 x 5.0 x 2.0mm, 4 Pins

X X X X
① ② ③ ④
- xxMxxxxxx

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.