

MV-TC645-7050T 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	10		40	MHz
Operating Temperature		-10/+70 to -40/+85		°C
Frequency Stability				
Stability Over Temperature		±5.0 to ±0.5		ppm
Initial Accuracy (25°C ±2°C)			±2.0	ppm
Power Supply Stability (±5% Change)			±0.3	ppm
Load Stability (±10% Change)			±0.2	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)		+3.3		V
Supply Current			10	mA
Tuning				
Tuning (Pull) Range		±5 to ±10		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			3	ns
Duty Cycle	45		55	%
Phase Noise & Jitter				
Phase Noise: (12.8 MHz)				
10 Hz offset		-93		dBc/Hz
100 Hz offset		-123		dBc/Hz
1kHz offset		-147		dBc/Hz
10kHz offset		-155		dBc/Hz
100kHz offset		-158		dBc/Hz

Notes:

- 1 Initial Accuracy (25°C ±2°C) for "No Tuning" option is ±1.0ppm
- 2 Rise and Fall times measured from 20% to 80% of a full output swing
- 3 Power Supply pin should be filtered. e.g. 0.1µF or 0.01 µF Capacitor for optimal performance.
- 4 Output is DC coupled

Maximum Ratings

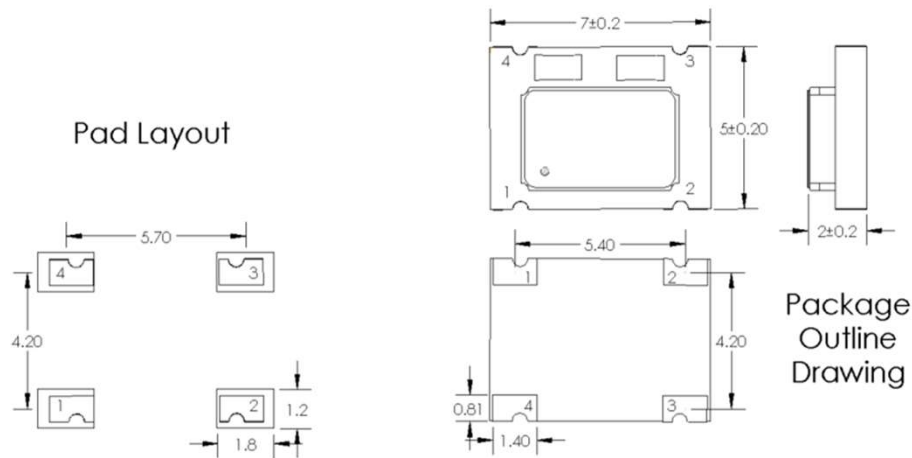
Storage Temp	-45°C to 95°C
Supply Voltage	0V to +7.0V
Control Voltage	0V to Vdd

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	500V
ESD, Charge Device Model	500V

Ordering Information
MV-TC645-7050T -

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

B x x x

① ② ③ ④

- xxMxxxxx

———
 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

L: ±5.0 ppm

M: ±2.5 ppm

N: ±2.0 ppm

P: ±1.5 ppm

Q: ±1.0 ppm

R: ±0.5 ppm

④ Tuning Range

X: No Tuning

L: ±5 ppm

K: ±8 ppm

J: ±10 ppm