

MV-TC641-1495X is a Temperature Compensated Crystal Oscillator (TCXO) . This TCXO is analog temperature compensated, HCMOS output device and comes in a FR4 base with metal cover 14.4x9.5mm 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	6.4		40	MHz
Operating Temperature		-20/+70 to -40/+85		°C
Frequency Stability				
Stability Over Temperature		±1.0 to ±0.28		ppm
Initial Accuracy (25°C ±2°C)			±1.0	ppm
Power Supply Stability (±5% Change)			±0.2	ppm
Load Stability (±10% Change)			±0.1	ppm
Aging / year (after 30 days of operation)			±1.0	ppm/year
Package Size		14.4 x 9.5 x 5.9		mm
<b>Supply</b>				
Supply Voltage (Vdd)		+3.3 to +5.0		V
Supply Current			35	mA
<b>Tuning</b>				
Tuning (Pull) Range		±5 to ±8		ppm
Tuning Slope		Positive		
Control Voltage to reach Pull Range	0.3		3	V
Linearity		< 10		%
Control Voltage Impedance	10			KΩ
<b>Output</b>				
Output Signal		HCMOS		
Output Logic Level				
Output Level - Logic High	2.6			V
Output Level - Logic Low			0.3	V
Output Load		15 pF to 50 pF		
Output Rise and Fall Time			5	ns
Duty Cycle	40		60	%
<b>Phase Noise &amp; Jitter</b>				
Phase Noise: (100 MHz)				
10 Hz offset		-73		dBc/Hz
100 Hz offset		-102		dBc/Hz
1kHz offset		-132		dBc/Hz
10kHz offset		-150		dBc/Hz
100kHz offset		-158		dBc/Hz
1MHz offset		-160		dBc/Hz
Jitter				
RMS Jitter: (12kHz - 20MHz) - 100 MHz		0.1		ps

### Notes:

- 1 Frequency Tuning (EFC) available from 6.4MHz to 26 MHz
- 2 For stability under ±0.5ppm, only ±5ppm EFC available
- 3 Output Level specified assuming 3.3V bias and 15pF load
- 4 SMD oscillators must be on the top side of the PCB during the reflow process.

## Maximum Ratings

Storage Temp	-40°C to 105°C
Supply Voltage	0V to +6.0V

### Maximum Ratings Notes:

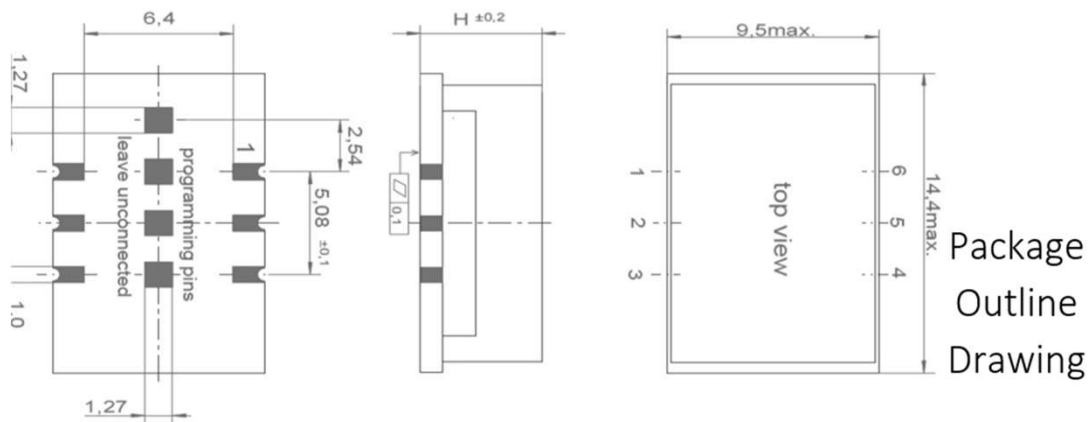
- 1 Stresses in excess of the absolute maximum ratings can permanently damage the device.
- 2 Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

## Package Information

Pin #	Function
Pin 1	Vc = Control Voltage or NC
Pin 2	NC = Make No Connection
Pin 3	GND = Ground
Pin 4	OUT = Output
Pin 5	NC = Make No Connection
Pin 6	Vdd = Supply Voltage

### Package and Assembly Notes:

- 1 H = 2.8 mm



## Handling and Construction

Package Construction	FR4 base with metal cover
Washable	non-washable device
RoHS compliance	100% ROHS 6 compliant
Moisture Sensitivity Level	MSL 1
ESD	HBM JESD22-A114-F Class 1C 10* 2000V

**Ordering Information**
**MV-TC641-1495X -**

TCXO, HCMOS

14.4 x 9.5 x 5.9mm, 6 Pins

**X X X X**

① ② ③ ④

**- xxMxxxxx**

Frequency

**① Voltage**

A: 5.0 V

B: 3.3 V

**② Temp Range**

H: -20/+70 °C

K: -40/+85 °C

**③ Temp Stability**

Q: ±1.0 ppm

R: ±0.5 ppm

S: ±0.28 ppm

**④ Tuning Range**

X: No Tuning

L: ±5 ppm

K: ±8 ppm

**Part Number Configuration Notes:**

- 1 Freq Tuning (EFC) only available from 6.4MHz to 26MHz
- 2 For stability under ±0.5ppm, only ±5ppm EFC available