

MV-TS699-1196A is a Temperature Compensated Crystal Oscillator (TCXO) . This TCXO is digital temperature compensated, Clipped Sine Wave output device and comes in a FR4 base with metal cover 11.4x9.6mm 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
General				
Output Frequency	10		26	MHz
Operating Temperature		-10/+70 -20/+70 -40/+85		°C
Frequency Stability				
Stability Over Temperature		±2.5 ±2.0 ±1.5 ±1.0		ppm
Initial Accuracy (25°C ±2°C)	±0.3		±1.0	ppm
Power Supply Stability (±5% Change)			±0.3	ppm
Load Stability (±10% Change)			±0.2	ppm
Static Hysteresis			±0.6	ppm
Long Term Stability			±1.0	ppm/year
Root Allan Variance (1 sec Tau)			1.0	ppb
Frequency Perturbations			1.0	ppm
Frequency Slope of Perturbations			1.0	ppm/°C
G Sensitivity (all 3 axis - 30Hz to 1500 Hz)			2.0	ppb/g
Package Size		11.4 x 9.6 x 1.85		mm
Supply				
Supply Voltage (Vdd)		5.0 3.3 3.0 2.8		V
Supply Current			2	mA
Tuning				
Tuning (Pull) Range	±5		±50	
Control Voltage to reach Pull Range	0.5		2.5	V
Control Voltage to reach Pull Range (@ 5V)		0.5 to 4.5Vmax		V
Control Voltage Impedance	100			KΩ
Trimmer Adjustment	±2			ppm
Output				
Output Signal		Clipped Sine Wave		
Output Level	0.8		3.2	V
Output Load		20KΩ 5pF		
Phase Noise & Jitter				
Phase Noise: (10 MHz)				
1 Hz offset		-70		dBc/Hz
10 Hz offset		-100		dBc/Hz
100 Hz offset		-130		dBc/Hz
1kHz offset		-145		dBc/Hz
10kHz offset		-150		dBc/Hz

Maximum Ratings

Storage Temp	-45°C to 85°C
Supply Voltage	0V to +5.0V
Control Voltage	0V to Vdd

Maximum Ratings Notes:

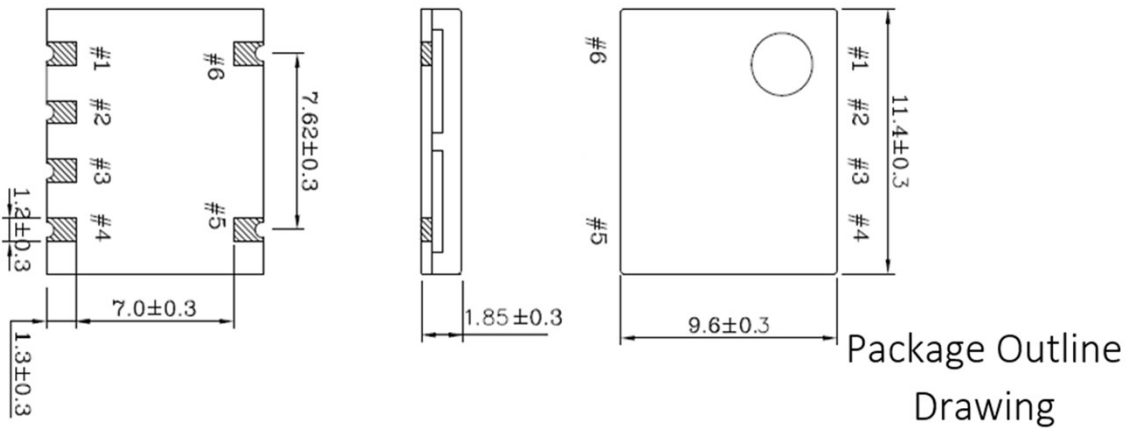
- 1 Stresses in excess of the absolute maximum ratings can permanently damage the device.
- 2 Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

Package Information

Pin #	Function
Pin 1	Vdd = Supply Voltage
Pin 2	Vc = Control Voltage or NC
Pin 3	GND = Ground
Pin 4	OUT = Output
Pin 5	GND = Ground
Pin 6	GND = Ground

Package and Assembly Notes:

- 1 Able to withstand normal solder reflow processes
- 2 No aqueous washing due to trimmer with open dielectric exposure.



Package Outline Drawing

Handling and Construction

Package Construction	FR4 base with metal cover
ESD, Human Body Model	500V
ESD, Charge Device Model	500V

Ordering Information
MV-TS699-1196A -
X X X X
- xxMxxxxx

TCXO, Clipped Sine Wave

11.4 x 9.6 x 1.85mm, 6 Pins

① ② ③ ④

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

 M: ±2.5 ppm
 N: ±2.0 ppm
 P: ±1.5 ppm
 Q: ±1.0 ppm

④ Tuning Range

 X: No Tuning
 L: ±5 ppm
 K: ±8 ppm
 J: ±10 ppm
 H: ±12 ppm
 G: ±15 ppm
 E: ±25 ppm