MV-TC698-1196X

Temperature Compensated Crystal Oscillator (TCXO)
11.4 x 9.6mm - CMOS

MV-TC698-1196X is a Temperature Compensated Crystal Oscillator (TCXO) . This TCXO is digital temperature compensated, CMOS 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		61.44	MHz
Operating Temperature		-10/+70 to -40/+85		°C
Storage Temperature		-40/+85		°C
Frequency Stability				
Stability Over Temperature		±2.5 to ±1.0		ppm
Initial Accuracy (25°C ±2°C)			±2.0	ppm
Power Supply Stability (±5% Change)			±1.0	ppm
Load Stability (±10% Change)			±0.3	ppm
Aging (1st year)			±1.0	ppm/year
Start Up Time			10	ms
Package Size		11.4 x 9.6 x 1.85		mm
Supply				
Supply Voltage (Vdd)		+3.3 to +5.0		V
Supply Current				
< 26 MHz			15	mA
≥ 22 MHz			24	mA
Tuning				
Tuning (Pull) Range		±5 to ±15		
Control Voltage to reach Pull Range	0.1 x Vdd		0.9 x Vdd	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 Level - Logic High Drive			-4	mA
Output Level - Logic Low Drive	4			mA
Output Load		15 pF		
Duty Cycle	40		60	%
Phase Noise & Jitter				
Phase Noise: (10 MHz)				
10 Hz offset		-107		dBc/Hz
100 Hz offset		-138		dBc/Hz
1kHz offset		-148		dBc/Hz
10kHz offset		-152		dBc/Hz
100kHz offset		-154		dBc/Hz

Notes:

1 Power Supply pin should be filtered. e.g. 0.1µF or 0.01 µF Capacitor for optimal performance.
2 Output is DC coupled

Maximum Ratings

Storage Temp	-45°C to 85°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

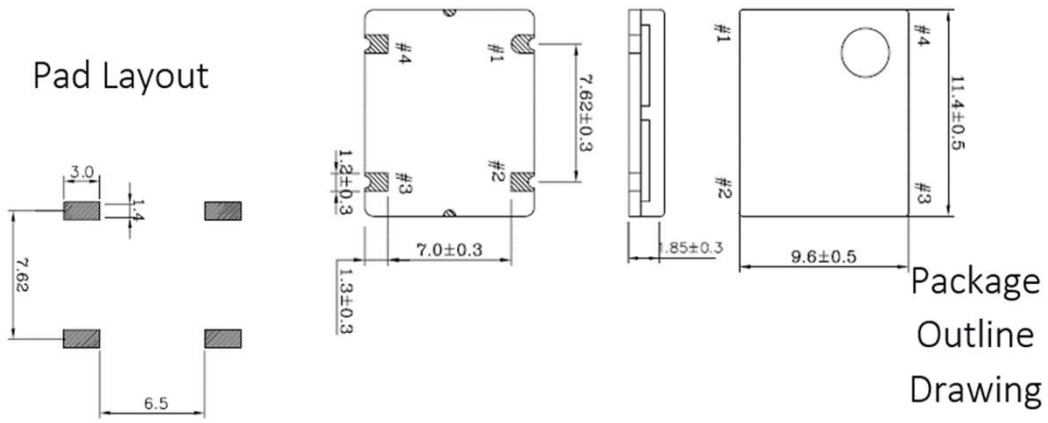
Pin #	Function
Pin 1	Vc = Control Voltage or NC
Pin 2	GND = Ground
Pin 3	OUT = Output
Pin 4	Vdd = Supply Voltage

Package and Assembly Notes:

1 Able to withstand normal solder reflow processes

2 Should not be subjected to a wash process that will immerse it in

3 A no clean process is recommended.



Handling and Construction

Package Construction	FR4 base with metal cover
ESD, Human Body Model	100V
ESD, Charge Device Model	500V

Ordering Information

MV-TC698-1196X - x x x x - xxMxxxxx

① ② ③ ④

TCXO, CMOS

11.4 x 9.6 x 1.85mm, 4 Pins

Frequency

① Voltage	② Temp Range	③ Temp Stability	④ Tuning Range
A: 5.0 V	J: -10/+70 °C	M: ±2.5 ppm	X: No Tuning
B: 3.3 V	H: -20/+70 °C	N: ±2.0 ppm	L: ±5 ppm
	K: -40/+85 °C	P: ±1.5 ppm	K: ±8 ppm
	P: -30/+85 °C	Q: ±1.0 ppm	J: ±10 ppm
			H: ±12 ppm
			G: ±15 ppm