MV-OS9542-2522A

Oven Controlled Crystal Oscillator (OCXO)
25.4 x 22.1mm - SINE Wave

MV-OS9542-2522A is a Oven Controlled Crystal Oscillator (OCXO) . This OCXO is a Low Noise, Close in, 12V, SMD, SINE Wave output and comes in a 5pin SMD 25.4x22.1mm 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		MHz
Operating Temperature		-10/+70 to -40/+85		°C
Package Size		25.4 x 22.1 x 13.2		mm
Frequency Stability				
Stability over Temp		±30 to ±5		ppb
Initial Accuracy (at 25°C, 15min)			±100	ppb
Power Supply Stability (±5% Change)			±1	ppb
Load Stability (±5% Change)			±1	ppb
Aging / day			±0.5	ppb
Aging / year			±50	ppb
Aging - 10 years			±300	ppb
Warm Up (5 Min) - Ref to Stab @ 1hr / 25°C			±50	ppb
Short Term (ADEV), τ = 1 sec			5e-11	
G-Sensitivity			1.0	ppb/g
Supply				
Supply Voltage (Vdd)	11.4	+12	12.6	V
Supply Current (Warm Up)			500	mA
Power Consumption (Steady State @+25°C)			2.3	W
Tuning				
Electrical Frequency Control (EFC)		±500		ppb
Slope		Positive		
Control Voltage to reach Pull Range	0	+5.0	Vref	V
Vref - Reference Voltage	+9.25	+9.5	+9.75	V
Linearity		10		%
Control Voltage Impedance	100			KΩ
Output				
Output Signal		SINE Wave		
Output Power	+8			dBm
Output Load		50		Ω
Harmonics			-30	dBc
Spurious			-80	dBc
Phase Noise & Jitter				
Phase Noise: (10 MHz)				
1 Hz offset		-112	-110	dBc/Hz
10 Hz offset		-142	-140	dBc/Hz
100 Hz offset		-157	-155	dBc/Hz
1kHz offset		-167	-165	dBc/Hz
10kHz offset		-172	-170	dBc/Hz
100kHz offset		-172	-170	dBc/Hz
1MHz offset		-172	-170	dBc/Hz

Notes:

1 Warm Up: Stability referenced to frequency after 1 hour of operation at 25°C.
2 Initial tolerance specified at time of shipment and at nominal EFC

Maximum Ratings

Storage Temp	-45°C to 95°C
Shock (MIL-STD-202, Method 213, Test Condition J)	30g, 11ms, half-sine (non-operating)
Vibration (MIL-STD-202, Method 201)	0.06" Total p-p, 10 to 55 Hz (non-operating)
Humidity (MIL-STD-202, Method 103, Test Condition A)	95% RH @ +40°C,non-condensing, 240 hours

Maximum Ratings Notes:

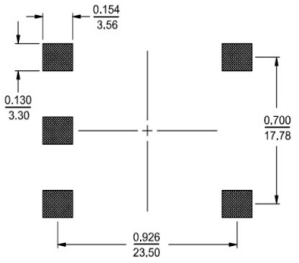
1 Stresses in excess of the absolute maximum ratings can permanently damage the device.
2 Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

Package Information

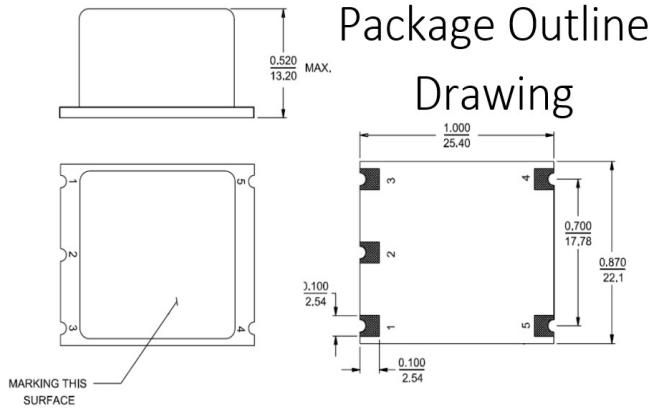
Pin #	Function
Pin 1	Vc = Control Voltage or NC
Pin 2	Reference Voltage (Vref) or NC
Pin 3	Vdd = Supply Voltage
Pin 4	OUT = Output
Pin 5	GND = Ground

Package and Assembly Notes:

1 For best signal integrity, do not run traces beneath the part.
2 Ensure the next layer under the part is ground plane.
3 Must be on the top side of the PCB during reflow.



Pad Layout



Package Outline Drawing

Handling and Construction

Package Construction	5pin SMD
RoHS compliance	100% ROHS 6 compliant
Washable	Non-Washable Device
ESD, Human Body Model	500V
ESD, Charge Device Model	500V

Ordering Information

MV-OS9542-2522A - Z x x Z - 10M00000

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OCXO, SINE Wave

25.4 x 22.1 x 13.2mm, 5 Pins

Frequency

① Voltage	② Temp Range	③ Temp Stability	④ EFC
Z: 12 V	J: -10/+70 °C	D: ±30 ppb	Z: ±500 ppm
	H: -20/+70 °C	F: ±20 ppb	
	K: -40/+85 °C	G: ±15 ppb	
		J: ±10 ppb	
		L: ±5 ppb	