MV-OC937-2522B

Oven Controlled Crystal Oscillator (OCXO)
25.4 x 22mm - CMOS

MV-OC937-2522B is a Oven Controlled Crystal Oscillator (OCXO) . This OCXO is a Ultra Stable, Low Power OCXO, CMOS output and comes in a Hermeric OCXO mounted on FR4 SMD with metal airflow cover 25.4x22mm 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		100	MHz
Operating Temperature		-10/+70 to -40/+85		°C
Package Size		25.4 x 22 x 14.4		mm
Frequency Stability				
Stability over Temp		±1.0 to ±0.28		ppb
Initial Accuracy (at 25°C, 15min)			±200	ppb
Power Supply Stability (±1% Change)			±0.2	ppb
Load Stability (±1% Change)			±0.2	ppb
Aging / day			±0.5	ppb
Aging / year			±50	ppb
Aging - 20 years			±400	ppb
Warm Up (5 Min) - Ref to Stab @ 1hr / 25°C			±10	ppb
Short Term (ADEV), τ = 1 sec @ 10MHz			1e-11	
Supply				
Supply Voltage (Vdd)		+3.3 to +5.0		V
Supply Current (Warm Up) @ 3.3V			1100	mA
Power Consumption (Steady State @+25°C) @ 3.3V			1.5	W
Supply Current (Warm Up) @ 5.0V			850	mA
Power Consumption (Steady State @+25°C) @ 5.0V			2.5	W
Output				
Output Signal		CMOS		
Output Level - Logic Low			+0.4	V
Output Level - Logic High	+3.0			V
Output Load		15		pF
Output Rise and Fall Time			6	nS
Spurious			-80	dBc
Duty Cycle	45	50	55	%
Phase Noise & Jitter				
Phase Noise: (10 MHz)				
1 Hz offset		-88	-85	dBc/Hz
10 Hz offset		-118	-115	dBc/Hz
100 Hz offset		-143	-140	dBc/Hz
1kHz offset		-148	-145	dBc/Hz
10kHz offset		-153	-150	dBc/Hz
100kHz offset		-153	-150	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
3 Long term Aging: includes variations over: Temperature, Supply, Load, Initial tolerance and 10 years aging.

Maximum Ratings

Storage Temp	-55°C to 105°C
Shock (MIL-STD-202G, Method 213B, Test Condition D)	500g, 1ms, half-sine 3 shocks per axis
Vibration (MIL-STD-202G, Method 204D, Test Condition A)	0.06" D.A. or 10G's Peak, 10 to 500 Hz
Moisture (MIL-STD-202G, Method 112)	10 cycles, 95% relative humidity
Supply Voltage	0V to (+Vcc +5%)

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.

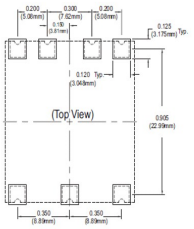
Package Information

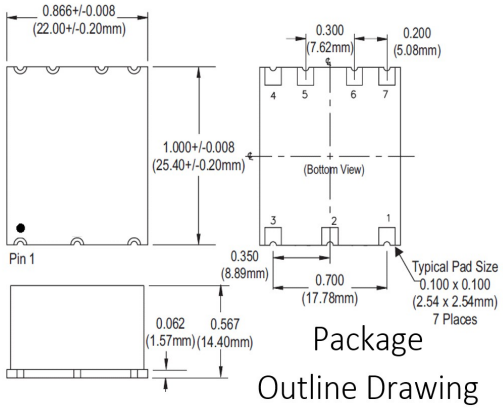
Pin #	Function
Pin 1	NC = Make No Connection
Pin 2	NC = Make No Connection
Pin 3	Vdd = Supply Voltage
Pin 4	OUT = Output
Pin 5	NC = Make No Connection
Pin 6	NC = Make No Connection
Pin 7	GND = Ground

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	Hermeric OCXO mounted on FR4 SMD with metal airflow cover
RoHS compliance	100% ROHS 6 compliant
Washable	Non-Washable Device
ESD, Human Body Model	500V
ESD, Charge Device Model	500V

Ordering Information

MV-OC937-2522B - x x x - xxMxxxxx

① ② ③

OCXO, CMOS

25.4 x 22 x 14.4mm, 7 Pins

Frequency

① Voltage	② Temp Range	③ Temp Stability
A: 5.0 V	J: -10/+70 °C	Q: ±1.0 ppb
B: 3.3 V	H: -20/+70 °C	R: ±0.5 ppb
	K: -40/+85 °C	S: ±0.28 ppb

Part Number Configuration Notes:

1 Tightest temperature stability options available as at -10 to +70 °C. For tightest stability at wide temp ranges - please contact us.

2 Standard Frequencies: 10MHz, 12.8MHz, 20MHz, 25MHz, 100MHz. Others available but may require longer lead time