MV389

Low Phase Noise Miniture OCXO
Low G-Sensitivity

10 MHz

Revised 11/15/18

Your dedicated source for crystal oscillators and filters.

Features

- Small Package: 1”x1”x0.5” (25 x 25 x 12.7 mm)
- High Stability vs. Temperature: up to ±5x10^{-9}
- Long Term Stability: up to ±3x10^{-8} /year
- +12V
- Low G-sensitivity: <1.0E-9/g

Applications

- SatCom
- Test equipment
- Network clock
- Base station

Specifications

Temperature Stability Availability			
Temperature Range	High	Higher	Comments
0 to +55^0 C	<±1x10^{-8}	<±5x10^{-9}	
-10 to +60^0 C	<±1x10^{-8}	C	Contact factory for <±5x10^{-9}
-20 to +70^0 C	<±1x10^{-8}	C	Contact factory for <±1x10^{-9}
-40 to +70^0 C	<±1x10^{-8}	N/A	

Temperature ranges from -20^0 C to +70^0 C available. Comtact factory and see ordering designations at the end of this data sheet.

Long Term Stability (Yearly Aging) Availability			
Standard Frequencies	High	Higher	Comments
10 MHz	<±1x10^{-7}	<±2x10^{-8}	

Comtact factory for non-standard long term stability perfomance and see ordering designations at the end of this data sheet.

Short Term, Pulling & Pushing Stability		
Specification	Standard	Comments
Short term stability per 1 sec.	<±5x10^{-12}	Allan deviation, 10 MHz
Stability vs. Load (±5%)	<±1.5x10^{-9}	
Stability vs. power supply (±5%)	<±1.5x10^{-9}	
Warm-up time to w/ in <±2x10^{-8}	<5 minutes	@25^0 C

Specifications-Continued

Phase Noise, 10 MHz, 12V, Sinewave (dBc/Hz)		
Frequency Offset	Standard	Comments
1 Hz	< -95	
10 Hz	< -125	
100 Hz	< -158	
1 kHz	< -168	
10 kHz	< -173	

Comtact factory for lower phase noise perfomance and +5V phase noise performance. See ordering designations at the end of this data sheet.

Output Parameters		
Output	Sinewave	Comments
Level	> 600 mV	
Load	50 Ohms ± 5%	
Rise/Fall Time	-	
Harmonic Suppression	> -30 dBc	

See ordering designations at the end of this data sheet.

Power Supply & Voltage Control Parameters	
Specification	12V ±5%
Steady state current @ 25^0 C	< 170 mA
Peak warm-up current @ -40^0 C	< 550 mA
Frequency Adjust range (10 MHz)	$>\pm 4x10^{-7}$
Frequency Adjust Voltage (Uin)	0 to +5V
Reference Voltage (Uref)	+5V

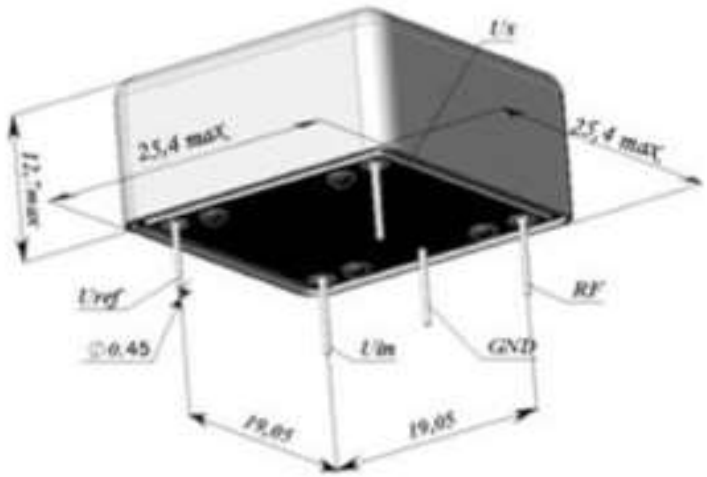
See ordering designations at the end of this data sheet.

Environmental Parameters		
Specification		Conditions
Vibration Frequency		10-500 Hz
Vibration Acceleration		5 gs
Shock Acceleration		75 gs
Shock Duration		3±1 mS
Humidity		98%
Storage Temperature		-55 to $+85^0$ C
RoHs		Option
G-Sensitivity	**<1E-9/g**	

Contact factory for extemded environmental conditions.

MV389

Outline Drawing



Pin	Value
Uref	Reference Voltage
Us	Power Supply
RF	RF Out
GND	Ground
Uin	Frequency Adjustment Voltage

Ordering Guide

MV389 - C 3 F - 10.0 MHz - 1

Short Term Stability /1 Sec, 10 MHz
5E-12

Availability of certain stability vs. operating temperature range.		±5x10^{-9}	±3x10^{-9}	±2x10^{-9}	±1x10^{-9}
		5	3	2	1
A	0 to +55^{0} C	A	A	A	A
B	-10 to +60^{0} C	A	A	A	A
C	-20 to +70^{0} C	A	A	A	C
D	-40 to +70^{0} C	A	A	A	C

Availability of certain aging values for certain frequencies.		Standard Frequency
		10.0 MHz
G	±1x10^{-7} /year	A
F	±5x10^{-8} /year	A
E	±3x10^{-8} /year	A

G-Sensitivity
<1E-9/g

Phase Noise (dBc/Hz) 10 MHz, Sinewave, 12V	1
Offset Frequency	
1 Hz	<-95
10 Hz	<-125
100 Hz	<-158
1 kHz	<-168
10 kHz	<-173

Additional Notes:

1) Contact factory for daily aging values.
   General rule: x10^{-x} /year = x10$^{-(x+2)}$ /day.
2) Advise RoHs requirement at Order.
3) Contact factory for non-standard temperature ranges.