MV172

Oven Controlled Crystal Oscillator
4.096-20 MHz

Revised 1/1/15

Your dedicated source for crystal oscillators and filters.

Features
- High Stability vs. Temperature up to ±1x10^{-9}
- Low Aging upto ±1x10^{-8} /year
- +5V or +12V Powere Supply
- Sinewave Output

Applications
- SatCom
- PLL
- VSAT
- Base Station

Specifications

Temperature Stability Availability			
Temperature Range	High	Higher	Comments
0 to +55^0 C	<±1x10^{-8}	<±1x10^{-9}	
-10 to +60^0 C	<±1x10^{-8}	<±2x10^{-9}	<±1x10^{-9} Available for 25 mm height
-20 to +70^0 C	<±1x10^{-8}	<±5x10^{-9}	<±2x10^{-9} Available for 25 mm height*
-40 to +70^0 C*	<±1x10^{-8}	C*	<±5x10^{-9} Available for 25 mm height
-40 to +85^0 C*	<±1x10^{-8}	C	<±1x10^{-8} Available for 25 mm height

* For 25 mm height, contact factory. C=Contact factory.

Temperature ranges from -60^0 C to +85^0 C available. Comtact factory and see ordering designations at the end of this data sheet.

Long Term Stability (Yearly Aging) Availability			
Standard Frequencies	5.0 MHz	4.096 MHz	Comments
Option E	<±3x10^{-8}	<±3x10^{-8}	
Option D	<±2x10^{-8}	<±2x10^{-8}	
Option C	<±1x10^{-8}	<±1x10^{-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	60, 80 & 100 MHz	Comments
Short term stability per 1 sec.	<±2x10^{-12}	Allan deviation, for 5 MHz
Stability vs. Load (±5%)	<±5x10^{-10}	
Stability vs. power supply (±5%)	<±5x10^{-10}	
Warm-up time to w/ in <±2x10^{-8}	<8 minutes	@25^0 C

Specifications-Continued

Phase Noise (dBc/Hz) Sinewave

Freuency Offset	
1 Hz	-100
10 Hz	-130
100 Hz	-145
10 kHz	-150
10 kHz	-155

Contact factory for improved phase noise and see ordering designations at the end of this data sheet.

Output Parameters

Suppy Voltage	12V ±5%
Output	Sinewave
Level	> 300V
Load	50 Ohms ±5%
Harmonics	<-30 dB
Harmonics Option	<-50 dB

See ordering designations at the end of this data sheet.

Power Supply & Voltage Control Parameters

Specification	+5V ±5%	+12V ±5%
Steady state current @ 25^0 C	< 500 mA	< 200 mA
Peak warm-up current	< 1200 mA	< 600 mA
Frequency Adjust range (10 MHz)	$>\pm 3x10^{-7}$	$>\pm 3x10^{-7}$
Frequency Adjust Voltage (Uin)	0 to +4.5V	0 to +5V
or with Potentiometer	20 kOhm	20 kOhm
Adjustmeny Slope	Negative (positive)	Negative (positive)
Reference Voltage (Uref)	+4.5V	+5V

See ordering designations at the end of this data sheet.

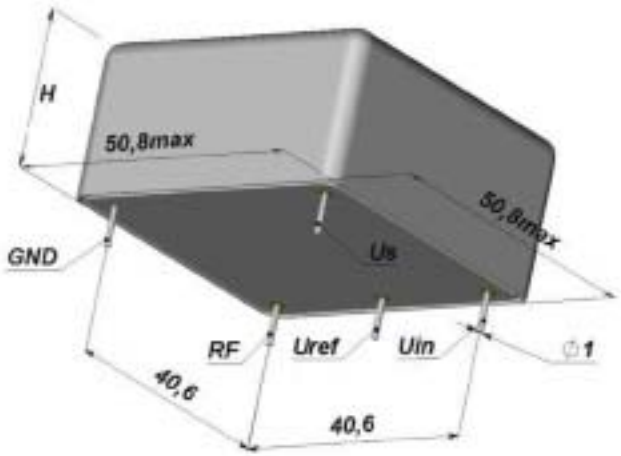
Environmental Parameters

Specification	Conditions
Vibration Frequency	10-500 Hz
Vibration Acceleration	5 g
Shock Acceleration	75 g
Shock Duration	3±1 mSec
Humidity	-
Storage Temperature	-55 to $+85^0$ C
RoHs	Option

Contact factory for extemded environmental conditions.

MV172

Outline Drawing



H=25 mm for Z25; H=19 mm for Z19.

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

Ordering Guide

Power Supply
5V
12V

Package	
Z25	50.8x50.8x25 mm
Z19	50.8x50.8x19 mm

Output
Sinewave
HCMOS

MV172 - B 1 - E - SIN - 5V - Z25 - 5.0 MHz

Availability of certain stability vs. operating temperature range.		±1x10^{-8}	±5x10^{-9}	±2x10^{-9}	±1x10^{-9}
		10	5	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*	C*	C*
E	-40 to +85^0 C	A*	C	C	N

* For 25 mm height
A=Available, C=Contact factory, N=Not available

Aging		
Standard Frequencies	5.0 MHz	4.096 MHz
E	±3x10^{-8} /year	
D	±2x10^{-8} /year	
C	±1x10^{-8} /year	

Phase Noise, 5 MHz, 12V (dBc/Hz)	
Offset frequency	
1 Hz	<-100
10 Hz	<-130
100 Hz	<-145
10 kHz	<-150
10 kHz	<-155

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.