MV218

Oven Controlled Crystal Oscillator
48-1200 MHz

Revised 1/1/15

Your dedicated source for crystal oscillators and filters.

Features

- Small Package Size: 25 x 25 x 10.3 mm w/ Optional SMA
- Low Phase Noise Floor at <167 dBc/Hz
- High Stability vs. Temperature: up to ±5x10^{-8}
- Short Warm-Up Time of <60 Seconds
- Sinewave Output
- 5V & 12V

Applications

- Frequency synthesizer
- Test equipment
- VSAT
- Base station

Specifications

Temperature Stability Availability			
Temperature Range	High	Higher	Comments
0 to +55^0 C	<±5x10^{-7}	<±5x10^{-8}	
-10 to +60^0 C	<±5x10^{-7}	<±7.5x10^{-8}	Contact factory for <±5x10^{-8}
-20 to +70^0 C	<±5x10^{-7}	<±1x10^{-7}	Contact factory for <±7.5x10^{-8}
-40 to +70^0 C	<±5x10^{-7}	<±3x10^{-7}	Contact factory for <±1x10^{-7}
-40 to +85^0 C	<±5x10^{-7}	C	Contact factory for <±3x10^{-7}

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		
Designation	Value	Comments
L	<±1.5x10^{-6}	
K	<±1x10^{-6}	
J	<±5x10^{-7}	
I	<±3x10^{-7}	
H	<±2x10^{-7}	
G	<±1x10^{-7}	

See ordering designations at the end of this data sheet.

Pulling & Pushing Stability		
Specification	Standard	Comments
Short term stability per 1 sec. (Allen deviation)	-	-
Stability vs. Load (±10%)	<±2x10^{-8}	
Stability vs. power supply (±10%)	<±1x10^{-7}	
Warm-up time to w/ in <±2x10^{-7}	<1 minute	@25^0 C

Comtact factory for short term stability and see ordering designations at the end of this data sheet.

Phase Noise, 12V (dBc/Hz)						
Option	1		2		3	4
Frequency, MHz	100	500	100	500	100	100
10 Hz	<-85	<-70	<-90	<-75	<-95	<-97
100 Hz	<-115	<-100	<-120	<-105	<-125	<-127
1 kHz	<-140	<-125	<-145	<-130	<-150	<-152
10 kHz	<-160	<-140	<-162	<-142	<-165	<-167
100 kHz	<-160	<-140	<-162	<-142	<-165	<-167

Phase Noise, 5V (dBc/Hz)							
Option	1		2		3		4
Frequency, MHz	100	500	100	500	100	500	100
10 Hz	<-85	<-70	<-90	<-75	<-95	<-80	<-97
100 Hz	<-115	<-100	<-120	<-105	<-125	<-110	<-127
1 kHz	<-140	<-125	<-145	<-130	<-147	<-132	<-150
10 kHz	<-152	<-140	<-155	<-140	<-157	<-140	<-160
100 kHz	<-160	<-140	<-160	<-140	<-162	<-140	<-165

See ordering designations at the end of this data sheet.

Output Parameters	
Output	Sinewave
Level	> 400 mV
Load	50 Ohms ± 10%
Rise/Fall Time	-
Harmonics	> -25 dBc

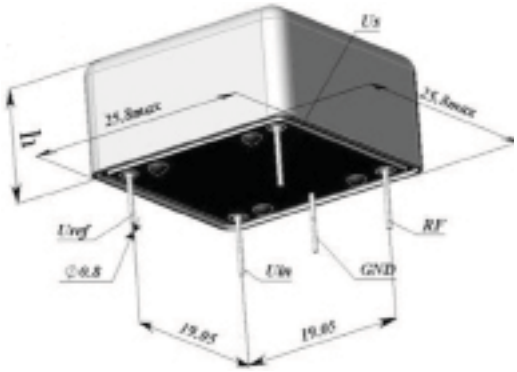
Power Supply & Voltage Control Parameters		
Specification	5V ±10%	12V ±10%
Steady state current @ 25^0 C	< 250 mA	< 150 mA
Peak warm-up current @ 25^0 C	< 800 mA	< 450 mA
Frequency Adjust range	$>\pm 3x10^{-6}$	$>\pm 3x10^{-6}$
Frequency Adjust Voltage (Uin)	0 to +4V	0 to +8V
Reference Voltage (Uref)	+4V	+10V

Environmental Parameters	
Specification	Conditions
Vibration Frequency	10-500 Hz
Vibration Acceleration	5 gs
Shock Acceleration	-
Shock Duration	-
Humidity	-
Storage Temperature	-55 to $+70^0$ C
RoHs	Option

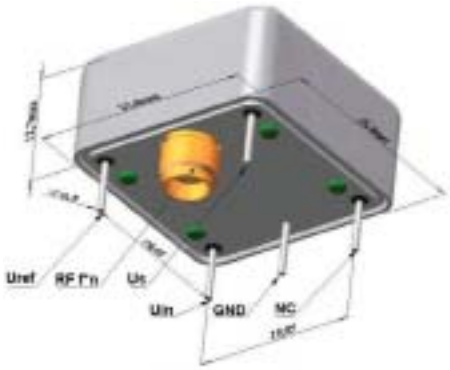
Contact factory for extemded environmental conditions.

MV218

Outline Drawing



A10



N

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

Ordering Guide

MV218 - B 300 J - 12V - 3 - 100.0 MHz - A10

Availability of certain stability vs. operating temperature range.		±5x10^{-7}	±3x10^{-7}	±1x10^{-7}	±7.5x10^{-8}	±5x10^{-8}
		500	300	100	75	50
A	0 to +55^0 C	A	A	A	A	A
B	-10 to +60^0 C	A	A	A	A	C
C	-20 to +70^0 C	A	A	A	C	N
D	-40 to +70^0 C	A	A	C	C	N
EX	-40 to +85^0 C	A	C	C	N	N

A=Available, C=Contact factory, N=Not available

Power Supply
5V
12V

Availability of certain aging values for certain frequencies.	
L	±1.5x10^{-6} /year
K	±1x10^{-6} /year
J	±5x10^{-7} /year
I	±3x10^{-7} /year
H	±2x10^{-7} /year
G	±1x10^{-7} /year

Package Type	
25.8x25.8x10.3 mm	A10
25.8x25.8x10.3 mm, w/ SMA	N

Frequency Range: 48.0-1200 MHz
Standard Frequencies: 50.0, 80.0, 98.304, 100.0, 120.0, 160.0 MHz

Phase Noise, 12V (dBc/Hz)						
Option	1		2		3	4
Frequency, MHz	100	500	100	500	100	100
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