

MINIATURE HIGH FREQUENCY PRECISION LOW PHASE NOISE OCXO MV218

Features:

- **Small package size of 26x26x10.3 mm**
- **Low Phase Noise: floor of <-167 dBc/Hz**
- **Wide temperature range**
- **Very short warm-up time – less than 60 seconds**

Frequency range: 48.0-1228.8 MHz	
Standard frequencies: 50.0; 84.0; 98.304; 100.0; 120.0; 122.88; 160.0; 200.0; 400.0; 500.0; 644.0; 700.0; 840.0; 900.0; 1000.0; 1228.8 MHz;	

Power Supply	
5 V	
12 V	

Package type, mm	
25.8x25.8x10.3	A10
25.8x25.8x12.7 (with SMA-connector)	N

ORDERING GUIDE: MV218-B 300 J-12V-3-100.0 MHz-A10

Availability of certain stability vs. operating temperature range	Phase noise, dBc/Hz (for 100.0 MHz)				
	$\pm 5 \times 10^{-7}$	$\pm 3 \times 10^{-7}$	$\pm 1 \times 10^{-7}$	$\pm 7.5 \times 10^{-8}$	$\pm 5 \times 10^{-8}$
A	500	300	100	75	50
B	A	A	A	A	A
C	A	A	A	C	NA
D	A	A	C	C	NA
EX*	A	C	C	NA	NA

A – available, NA – not available, C – consult factory
 *for options without frequency multiplication. Upper operating temperature limit for options with frequency multiplication is +70 deg C.
 For other temperature ranges see designation at the end of Data Sheet.

Aging	
L	$\pm 1.5 \times 10^{-6}$ /year
K	$\pm 1 \times 10^{-6}$ /year
J	$\pm 5 \times 10^{-7}$ /year
I	$\pm 3 \times 10^{-7}$ /year
H	$\pm 2 \times 10^{-7}$ /year
G	$\pm 1 \times 10^{-7}$ /year

Phase noise, dBc/Hz (for 100.0 MHz)								
Option	1		2		3		4	
	5 V	12 V	5 V	12 V	5 V	12 V	5 V	12 V
10 Hz	-85	-85	-90	-90	-95	-95	-97	-97
100 Hz	-115	-115	-120	-120	-125	-125	-127	-127
1000 Hz	-140	-140	-145	-145	-147	-150	-150	-152
10000 Hz	-152	-160	-155	-162	-157	-165	-160	-167
100000 Hz	-160	-160	-160	-162	-162	-165	-165	-167

Phase noise, dBc/Hz (Frequency multiplication, 5V only)						
Option	For 500.0 MHz			For 1000.0 MHz		
	1	2	3	1	2	3
10 Hz	-75	-80	-85	-70	-80	-85
100 Hz	-95	-100	-115	-100	-105	-110
1000 Hz	-125	-130	-135	-120	-125	-130
10000 Hz	-140	-140	-145	-135	-137	-140
100000 Hz	-145	-147	-150	-140	-145	-147

Frequency stability vs. load changes	< $\pm 2 \times 10^{-8}$	
Frequency stability vs. power supply changes	< $\pm 1 \times 10^{-7}$	
Warm-up time within accuracy of $\pm 2 \times 10^{-7}$ @ 25°C	<60 sec	
Power supply (Us)	12 V $\pm 10\%$	5 V $\pm 10\%$
Steady state current consumption @ 25°C	<115 mA	<250 mA <300* mA
Peak current consumption during warm-up @ 25°C	<370 mA <450* mA	<800 mA
Reference voltage output (Uref)	+10...11 V	+4,3...4,6 V
with external control voltage range (Uin)	0...+10 V	0...+4,5 V
Frequency pulling range**	$> \pm (2.5...3) \times 10^{-6}$	
Output	SIN	
Level	>400 mV RMS	
Load	50 Ohm $\pm 10\%$	
Harmonics	<-25 dBc	
Sub-harmonics*	<-20* dBc	
	<-45...55 dBc	

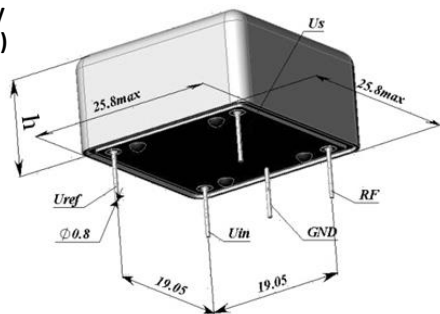
*for frequency >130 MHz;

Vibrations	10-500 Hz, 5g
Storage temperature range	-55...+70 °C

Package drawings:

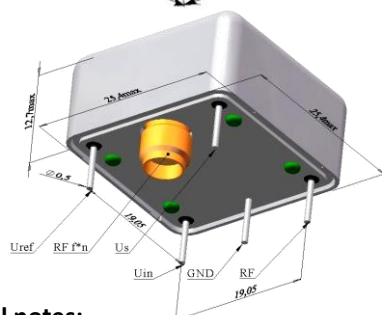
A10:

Only for frequency range 48-240 MHz)



N:

Only for frequency >240 MHz)



Additional notes:

- For non standard operating temperature ranges please use the following two letters designations (first letter for the lower limit, second letter for the upper limit), °C:

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	W	X
-60	-55	-50	-45	-40	-30	-20	-10	0	+10	+30	+40	+45	+50	+55	+60	+65	+70	+75	+80	+85



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Due to continuous development and improvement Morion reserves the right to modify design or specifications of its products without prior notice.

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