

# MINIATURE HIGH FREQUENCY PRECISION LOW PHASE NOISE OCXO MV317

## Features:

- **Low G – sensitivity:** <math><1E-9/G</math> (typical), options to <math><2E-10/G</math>
- **Frequency range:** 48 – 125 MHz
- **Standard frequencies:** 60 MHz; 80 MHz; 100 MHz; 120 MHz; 122.76 MHz
- **Small package size of 25x25x10.3 mm**
- **Ultra low phase noise:** <math><-140\text{dBc}/\text{Hz}</math> @ 100 Hz; <math><-180\text{ dBc}/\text{Hz}</math> @ 100 kHz
- **High stability vs. temperature:** up to <math>\pm 5 \times 10^{-8}</math>
- **Power supply:** 5V or 12V

G-sensitivity
Not specified (-)
<math>< 8 E-10/G</math>
<math>< 5 E-10/G</math>
<math>< 3E-10/G</math>
<math>< 2E-10/G^*</math>

\* - consult factory

Power supply
5 V
12 V

## ORDERING GUIDE: MV317-B 300 J-12V-3-100M-5E-10/G

Availability of certain stability vs. operating temperature range		$\pm 5 \times 10^{-7}$	$\pm 3 \times 10^{-7}$	$\pm 1 \times 10^{-7}$	$\pm 7.5 \times 10^{-8}$	$\pm 5 \times 10^{-8}$
		500	300	100	75	50
A	0...+55°C	A	A	A	A	A
B	-10...+60°C	A	A	A	A	A
C	-20...+70°C	A	A	A	A	A
D	-40...+70°C	A	A	A	A	C
EX	-40...+85°C	A	A	A	C	NA

A – available; NA – not available; C – consult factory.

For other temperature ranges see designation at the end of Data Sheet.

Upper temperature >+75°C available for Us=5V.

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

Phase noise, dBc/Hz, for 100.0 MHz						
Option	2	3	4	5	6	7**
For power supply 12 V						
10 Hz	<math><-95</math>	<math><-98</math>	<math><-100</math>	<math><-102</math>	<math><-98</math>	<math><-107</math>
100 Hz	<math><-127</math>	<math><-132</math>	<math><-135</math>	<math><-137</math>	<math><-132</math>	<math><-140^*</math>
1000 Hz	<math><-156</math>	<math><-157</math>	<math><-160</math>	<math><-164</math>	<math><-162</math>	<math><-165</math>
10000 Hz	<math><-172</math>	<math><-174</math>	<math><-174</math>	<math><-176</math>	<math><-176</math>	<math><-176</math>
100000 Hz	<math><-176</math>	<math><-177</math>	<math><-176</math>	<math><-178</math>	<math><-180</math>	<math><-178</math>
For power supply 5 V						
10 Hz	<math><-95</math>	<math><-98</math>	<math><-100</math>	<math><-102</math>	<math><-98</math>	-
100 Hz	<math><-127</math>	<math><-132</math>	<math><-133</math>	<math><-135</math>	<math><-132</math>	-
1000 Hz	<math><-156</math>	<math><-157</math>	<math><-160</math>	<math><-164</math>	<math><-162</math>	-
10000 Hz	<math><-172</math>	<math><-172</math>	<math><-172</math>	<math><-174</math>	<math><-178</math>	-
100000 Hz	<math><-174</math>	<math><-174</math>	<math><-175</math>	<math><-176</math>	<math><-183^*</math>	-

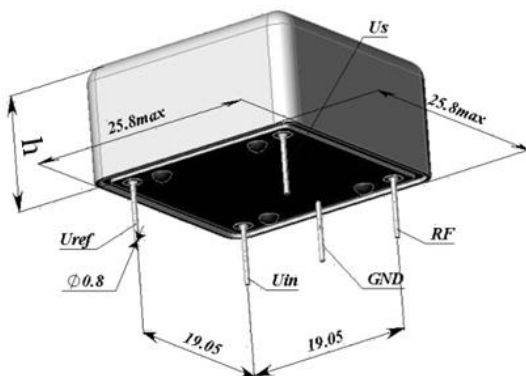
\* consult factory

\*\* - within  $\pm 1,5$  ppm from nominal frequency at the moment of shipment and delivery

Frequency stability vs. load changes	<math><\pm 2 \times 10^{-8}</math>	
Frequency stability vs. power supply changes	<math><\pm 5 \times 10^{-8}</math>	
Warm-up time within accuracy of <math><\pm 2 \times 10^{-7}</math> @ 25°C	<math>< 2 \text{ min.}</math>	
Power supply (Us)	12V $\pm$ 5%	5V $\pm$ 5%
Steady state current consumption @ 25°C	<math>< 120 \text{ mA}</math>	<math>< 250 \text{ mA}</math>
Peak current consumption during warm-up @ 25°C	<math>< 300 \text{ mA}</math>	<math>< 600 \text{ mA}</math>
Reference voltage output (Uref)	+10...11 V	4.5...4.8 V
with external control voltage range (Uin)	0...10 V	0...4.5 V
Frequency pulling range***	><math>\pm 2 \times 10^{-6}</math>	

\*\*\* - sufficient to compensate aging during life time

## Package drawing:



h= 10.3 mm

## 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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