

# MINIATURE HIGH FREQUENCY PRECISION LOW PHASE NOISE OCXO MV317

## Features:

- Low G – sensitivity:  $<1E-9/G$  (typical), options to  $<2E-10/G$
- Frequency range: 48 – 1250.0 MHz
- Small package size of 25x25x10.3 mm
- Ultra low phase noise:  $<-140dBc/Hz @ 100 Hz$ ;  $<-180 dBc/Hz @ 100 kHz$
- High stability vs. temperature: up to  $\pm 5 \times 10^{-8}$
- Power supply: 5V or 12V

Standard frequencies, MHz			
60.0	80.0	100.0	120.0
122.76	200.0	500.0	1000.0

Power supply
5 V
12 V

Package
(-) A10* if not specified
N
V

\* for 48.0-240.0 MHz

## ORDERING GUIDE: MV317-B 300 J-12V-3-100.0MHz-5E-10/G-V

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

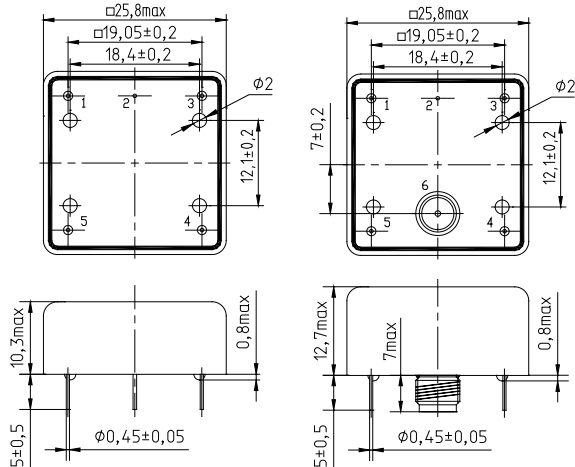
A – available; NA – not available; C – consult factory.

For frequencies >125 MHz upper temperature:

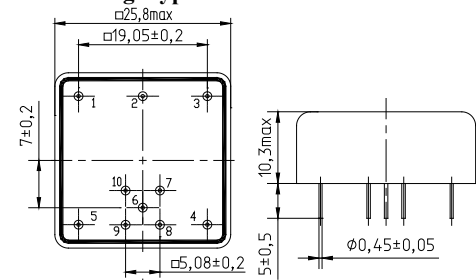
>+70°C available for  $U_s=5V$ , +60°C - for 12V.

Package type «A10»:

Package type «N»  
with SMA-connector:



Package type «V»:



Harmonics	>25 dBc
Sub harmonics	>45 dBc (for A10) >50 (55*) dBc (for V, N)
Vibrations	10-500 Hz, 5g
Storage temperature range	-55...+80°C

\* consult factory

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

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

\* - consult factory

Phase noise, dBc/Hz, for 100.0 MHz							
Option	1	2	3	4	5	6	7**
For power supply 12 V							
10 Hz	-92	-95	-98	-100	-102	-98	-107
100 Hz	-125	-127	-132	-135	-137	-132	-140*
1000 Hz	-154	-156	-157	-160	-164	-162	-165
10000 Hz	-170	-172	-174	-174	-176	-176	-176
100000 Hz	-174	-176	-177	-176	-178	-180	-178
For power supply 5 V							
10 Hz	-95	-95	-98	-100	-102	-98	-
100 Hz	-125	-127	-132	-133	-135	-132	-
1000 Hz	-154	-156	-157	-160	-164	-162	-
10000 Hz	-170	-172	-172	-172	-174	-178	-
100000 Hz	-172	-174	-174	-175	-176	-183*	-

\* consult factory

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

Option	for 200 MHz			for 500 MHz			for 1000 MHz		
	1	2	3	1	2	3	1	2	3
10 Hz	-89	-91	-94	-80	-82	-85	-75	-77	-80
100 Hz	-119	-124	-129	-110	-115	-120	-105	-110	-115
1000 Hz	-148	-152	-154	-139	-143	-145	-134	-138	-140
10000 Hz	-159	-161	-163	-150	-152	-154	-145	-147	-149
100000 Hz	-162	-164	-166	-153	-155	-157	-148	-150	-152

Frequency stability vs. load changes	$<\pm 2 \times 10^{-8}$
Frequency stability vs. power supply changes	$<\pm 5 \times 10^{-8}$
Warm-up time within accuracy of $<\pm 2 \times 10^{-7}$ @ 25°C	<2 min.
Power supply ( $U_s$ )	12V $\pm 5\%$ 5V $\pm 5\%$
Steady state current consumption @ 25°C	< 120 mA    < 250 mA
Peak current consumption during warm-up @ 25°C	< 300 mA    < 600 mA
Reference voltage output ( $U_{ref}$ )	+10...11 V    4.5...4.8 V
with external control voltage range ( $U_{in}$ )	0...10 V    0...4.5 V
Frequency pulling range***	$>\pm 2 \times 10^{-6}$
Output	SIN
Level	>400 mV
Load	50 Ohm $\pm 10\%$

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

## 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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