

# 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 – 125.0 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:  $<-140dBc/Hz$  @ 100 Hz;  $<-180 dBc/Hz$  @ 100 kHz
- High stability vs. temperature: up to  $\pm 5 \times 10^{-8}$
- Power supply: 5V or 12V

Power supply
5 V
12 V

## ORDERING GUIDE: MV317-B 300 J-12V-3-100.0MHz-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  $>+75^\circ\text{C}$  available for  $U_s=5\text{V}$ .

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 (-)
$< 8 E-10/G$
$< 5 E-10/G$
$< 3 E-10/G$
$< 2 E-10/G^*$

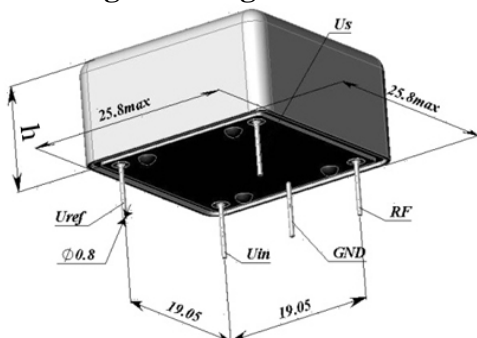
\* - consult factory

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

\* consult factory

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

## Package drawing:



h = 10.3 mm

Output	SIN
Level	$>500$ mV   $>400$ mV
Load	50 Ohm $\pm 10\%$
Harmonics	$>25$ dBc
Vibrations	10-500 Hz, 5g
Storage temperature range	$-55...+80^\circ\text{C}$

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***	$>\pm 2 \times 10^{-6}$

\*\*\* - 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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