

# MINIATURE DOUBLE OVEN ULTRA PRECISION OCXO MV209

## Features:

- Low sensitivity to rapid changes of ambient temperature
- Stability vs. temperature – up to  $\pm 2 \times 10^{-10}$
- Short term stability – up to  $2 \times 10^{-12}$  per 1 sec
- Aging – up to  $\pm 2 \times 10^{-8}$ /year
- Standard CO-08 package with size of 36x27x19 mm

## ORDERING GUIDE: MV209 – B 05 E – 10.0 MHz- LN

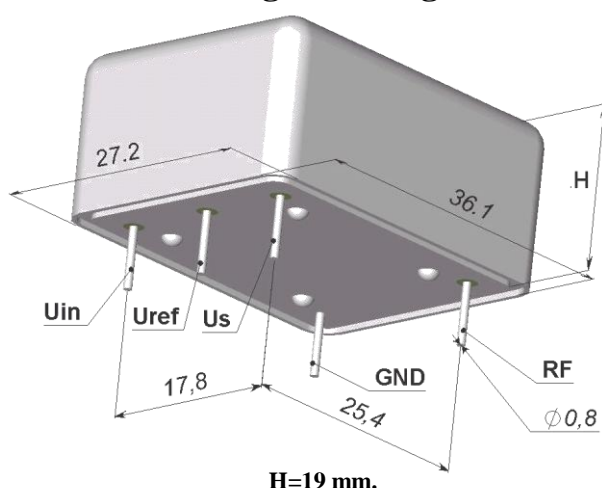
Availability of certain stability vs. operating temperature		$\pm 5 \times 10^{-10}$	$\pm 3 \times 10^{-10}$	$\pm 2 \times 10^{-10}$	$\pm 1 \times 10^{-10}$
		05	03	02	01
A	0...+55 °C	A	A	A	C
B	-10...+60 °C	A	A	A	C
C	-20...+70 °C	A	A	C	C
D	-40...+70 °C	A	C	C	C

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

Availability of certain aging values for certain frequencies		Standard frequencies		
		5.0 MHz	8.192 MHz	10.0 MHz
F	$\pm 5 \times 10^{-8}$ /year	A	A	A
E	$\pm 3 \times 10^{-8}$ /year	A	A	A
D	$\pm 2 \times 10^{-8}$ /year	A	A	A
C	$\pm 1 \times 10^{-8}$ /year	A	C	C

A – available, C – consult factory

## Package drawing:



Phase noise, dBc/Hz, for 10MHz	-	LN
1 Hz	<-95	<-100
10 Hz	<-125	<-130
100 Hz	<-143	<-148
1000 Hz	<-152	<-155
10000 Hz	<-158	<-160

Short term stability (Allan deviation) per 1 sec, typical	$< 5 \times 10^{-12}$
Optional:	$< 2 \times 10^{-12}$ $< 1 \times 10^{-12}$
Frequency stability vs. load changes	$< \pm 1 \times 10^{-10}$
Frequency stability vs. power supply changes	$< \pm 1 \times 10^{-10}$
Warm-up time within accuracy of $< \pm 5 \times 10^{-8}$ @ 25°C	<10 min
Power supply (Us)	12V $\pm$ 5%
Steady state current consumption @ 25°C (still air)	< 150 mA
Peak current consumption during warm-up @ 25°C	<700 mA
Frequency pulling range	$> \pm 4 \times 10^{-7}$
with external control voltage range (Uin)	0...+5 V
Reference voltage (Uref)	+5V

Vibrations:	
Frequency range	10-500 Hz
Acceleration	10g
Shock:	
Acceleration	150 g
Duration	3 $\pm$ 1 ms
Storage temperature range	-55...+80 °C

Output	SIN
Level	> 400 mV RMS
Load	50 Ohm $\pm$ 5%
Harmonic suppression	>30dBc

## ADDITIONAL NOTES:

- Showed values of frequency stability vs. temperature usually are tested in Still Air test conditions. Please inform factory about different conditions in operation to provide appropriate tests.
- Please consult factory for daily aging values. Normally typical correspondence of daily aging per day to aging per year is as following:  $\pm 5 \times 10^{-8}$ /year -  $\pm 5 \times 10^{-10}$ /day;  $\pm 3 \times 10^{-8}$ /year -  $\pm 3 \times 10^{-10}$ /day;  $\pm 2 \times 10^{-8}$ /year -  $\pm 2 \times 10^{-10}$ /day.
- 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