

DOUBLE OVEN ULTRA PRECISION OCXO MV89

Features:

- Frequency range 4.096 - 10.0 MHz
- Very high stability vs. temperature - up to $\pm 5 \times 10^{-11}$
- Very low aging - up to $\pm 5 \times 10^{-9}$ /year
- Not sensitive for rapid changes of ambient temperature
- Ideal for GPS, CDMA, 3G applications

ORDERING GUIDE: MV89 – B 01 E – 10.0 MHz

Availability of certain stability vs. operating temperature range		$\pm 3 \times 10^{-10}$	$\pm 2 \times 10^{-10}$	$\pm 1 \times 10^{-10}$	$\pm 5 \times 10^{-11}$
		03	02	01	005
A	0...+55 °C	A	A	A	C
B	-10...+60 °C	A	A	A	C
C	-20...+70 °C	A	A	A	C
D	-40...+70 °C	A	A	C	NA

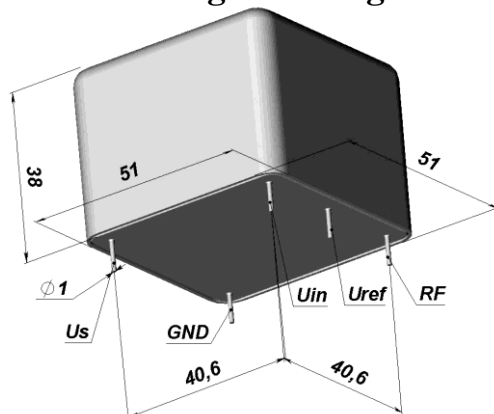
Availability of certain aging values for certain frequencies		Standard frequencies			
		4.096 MHz	5.0 MHz	8.192 MHz	10.0 MHz
E	$\pm 3 \times 10^{-8}$ /year	A	A	A	A
D	$\pm 2 \times 10^{-8}$ /year	A	A	A	A
C	$\pm 1 \times 10^{-8}$ /year	C	A	C	A
B	$\pm 5 \times 10^{-9}$ /year	C	A	C	A

A – available NA – not available C – consult factory

A – available, NA – not available, C – consult factory

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

Package drawing:



Mechanical characteristics:

Vibrations:	
Frequency range	1-500 Hz
Acceleration	5g
Shock:	
Acceleration	150 g
Duration	2±0.5 ms
Storage temperature range	-55...+80 °C

Short term stability (Allan deviation) per 1 s, typical	$< 2 \times 10^{-12}$
Frequency stability vs. load changes	$< \pm 1 \times 10^{-10}$
Frequency stability vs. power supply changes	$< \pm 1 \times 10^{-10}$
Warm-up time with accuracy of $< \pm 5 \times 10^{-8}$	< 15 min
Power supply (Us)	12V±5%
Steady state current consumption @ 25°C (still air)	< 350 mA
Peak current consumption during warm-up @ 25°C	< 1.5 A
Frequency pulling range	$> \pm 2.5 \times 10^{-7}$
with external control voltage range (Uin)	0...+5 V
Reference voltage (Uref)	+5V

Output	SIN
Level	+7 ±2 dBm
Load	50 Ohm±5%
Subharmonics (for 8.192, 10.0 MHz)	< -40 dBc
Harmonic suppression	> 30 dBc
Phase noise, typical (for 5 MHz)	
1 Hz	-105 dBc/Hz
10 Hz	-130 dBc/Hz
100 Hz	-145 dBc/Hz
1000 Hz	-150 dBc/Hz
10000 Hz	-155 dBc/Hz

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; $\pm 1 \times 10^{-8}$ /year - $\pm 1 \times 10^{-10}$ /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