## **DOUBLE OVEN ULTRA PRECISION OCXO MV89**

#### Features:

- Frequency range 4.096 10.0 MHz
- Very high stability vs. temperature up to  $\pm 5x10^{-11}$
- Very low aging up to  $\pm 5x10^{-9}$ /year
- Not sensitive for rapid changes of ambient temperature
- Ideal for GPS, CDMA, 3G applications

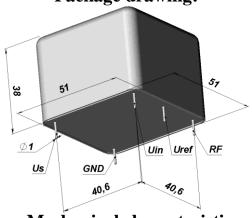
# ORDERING GUIDE: MV89 - B 01 E - 10.0 MHz

	certa	vailability of ain stability vs. operating perature range	±3x10 <sup>-10</sup>	±2x10 <sup>-10</sup>	±1x10 <sup>-10</sup>	±5x10 <sup>-11</sup>	
	t cm	cratare range	03	02	01	005	
-	A	0+55 °C	A	A	A	C	
Ц	В	- 10+60 °C	A	A	A	C	
1	C	- 20+70 °C	A	A	A	C	
-	D	-40+70 °C	A	A	C	NA	

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	1-200 Hz
Acceleration	<b>5</b> g
Shock:	
Acceleration	150 g
Duration	3±1 ms
Storage temperature range	-55+80 °C

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	A	vailability of	Standard frequencies												
	ce	ertain aging	4.096	5.0	8.192	10.0									
	valı	ies for certain	MHz	MHz	MHz	MHz									
_	f	requencies													
	E	±3x10 <sup>-8</sup> /year	A	A	A	A									
	D	±2x10 <sup>-8</sup> /year	A	A	A	A									
1	C	±1x10 <sup>-8</sup> /year	C	A	C	A									
	В	±5x10 <sup>-9</sup> /year	C	A	C	A									

A – available NA – not available C – consult factory

Short term stability (Allan deviation) per 1 s, typical	<2x10 <sup>-12</sup>			
Frequency stability vs. load changes	<±1x10 <sup>-10</sup>			
Frequency stability vs. power supply changes	<±1x10 <sup>-10</sup>			
Warm-up time with accuracy of <±5x10 <sup>-8</sup>	<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	>±2.5x10 <sup>-7</sup>			
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	>30dBc
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: ±5x10<sup>-8</sup>/year ±5x10<sup>-10</sup>/day; ±3x10<sup>-8</sup>/year ±3x10<sup>-10</sup>/day; ±2x10<sup>-8</sup>/year ±2x10<sup>-10</sup>/day; ±1x10<sup>-8</sup>/year ±1x10<sup>-10</sup>/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	В	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