

# DOUBLE OVEN ULTRA PRECISION OCXO WITH DIGITAL FREQUENCY CONTROL OPTION MV268

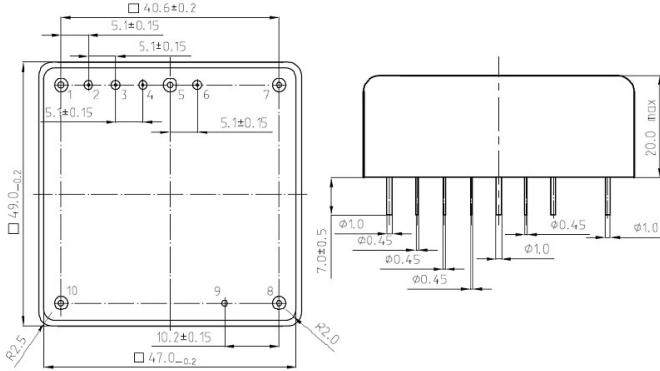
## Features:

- Low sensitivity to rapid changes of ambient temperature
- Availability of frequency control by SPI protocol
- Low aging up to  $\pm 1 \times 10^{-8}$
- High stability vs. temperature - up to  $\pm 1 \times 10^{-10}$

## ORDERING GUIDE: MV268-B 02 E -10.0 MHz-D

Availability of certain stability vs. operating temperature		$\pm 1 \times 10^{-9}$	$\pm 5 \times 10^{-10}$	$\pm 3 \times 10^{-10}$	$\pm 2 \times 10^{-10}$	$\pm 1 \times 10^{-10}$
		1	05	03	02	01
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	C	C

A – available, NA – not available, C – consult factory  
For other temperature ranges see designation in the order guide.



Availability of certain aging values for certain frequencies		Standard frequencies			
		5.0 (5x2) MHz	5.115 (5.115x2) MHz	8.192 (8.192x2) MHz	10 (10x2) MHz
F	$\pm 5 \times 10^{-8}$ /year	A	A	A	A
E	$\pm 3 \times 10^{-8}$ /year	A	A	A	A
D	$\pm 2 \times 10^{-8}$ /year	A	A	A	C
C	$\pm 1 \times 10^{-8}$ /year	C	C	C	C

Analogue Control (A)	
Frequency pulling range	$> \pm 2.5 \times 10^{-7}$
External control voltage range (U <sub>in</sub> )	0...+5V
Reference voltage (U <sub>ref</sub> )	+5V
Digital Control (D)	
Frequency pulling range for code from 0000 HEX to FFFF HEX -step -typical	$> \pm 2.5 \times 10^{-7}$ $< 1.3 \times 10^{-11}$ $< 1.0 \times 10^{-11}$
Logical signal levels for frequency adjustment (SPI interface)	
-Low level	<0.8
-High level	>2.0

Digital Control		Analog Control	
1	CS (chip select input)*	1	U <sub>in</sub>
2	NC	2,3	NC
3	DIN (serial data input)	4	NC
4	SCLK(serial clock input)	5	U <sub>ref</sub>
5,6	NC	6	NC
7	RF out	7	RF out
8	GND	8	GND
9	GND, Case	9	GND, Case
10	Supply (+12V)	10	Supply (+12V)

Vibrations: Frequency range Acceleration	10-500 Hz 5g
Shock: Acceleration Duration	15 g 2±0,5 ms
Storage temperature range	-55...+80 °C

\* Active low

Short term stability (Allan deviation) per 1 sec, for 5 MHz and 10 MHz	$< 2 \times 10^{-12}$
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 $< \pm 1 \times 10^{-8}$ @25°C	<15 min
Power supply (U <sub>s</sub> )	12V±5%
Steady state current consumption @ 25°C (still air)	< 300 mA
Peak current consumption after switch-on:	< 900 mA
Output	SIN
Level	>5 dBm
Load	50 Ohm±10%
Harmonic and subharmonics suppression	>30dBc
Phase noise, typical, dBc/Hz	for 10 MHz (5x2)
1 Hz	-100
10 Hz	-125
100 Hz	-140
1000 Hz	-145
10000 Hz	-150

### 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
- Please mention RoHS requirement (if any) while requesting for quote or while placing PO.
- 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