

# ULTRA HIGH PERFORMANCE OCXO WITH LOW G-SENSITIVITY MV272M

## Features:

- Standard frequencies: 5.0 and 10.0 MHz
- Ultra low phase noise
- High stability vs. temperature: up to  $\pm 1 \times 10^{-9}$
- High long term stability: up to  $\pm 1 \times 10^{-8}$ /year
- Oscillation ON/OFF function
- Low G-sensitivity ( $1 \times 10^{-9}$  - typical)
- SMD package

## ORDERING GUIDE: MV272M-C 3 D-ULN-10.0 MHz-5E-13

Availability of certain stability vs. operating temperature range, still air (10.0 MHz)		$\pm 5 \times 10^{-9}$	$\pm 3 \times 10^{-9}$	$\pm 2 \times 10^{-9}$	$\pm 1 \times 10^{-9}$
A	0...+55°C	A	A	A	A
B	-10...+60°C	A	A	A	A
C	-20...+70°C	A	A	A	C
EX	-40...+85°C	A	A	C	C

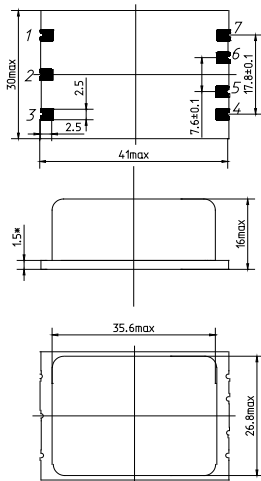
  

Availability of certain aging values for certain frequencies	
F	$\pm 5 \times 10^{-8}$ /year
E	$\pm 3 \times 10^{-8}$ /year
D	$\pm 2 \times 10^{-8}$ /year
C	$\pm 1 \times 10^{-8}$ /year

A – available; C – consult factory.

For other temperature ranges please consult factory.

Pin	Designation
1	GND
2	NC
3	RF
4	Us
5	ON OFF *
6	U in
7	U ref



Phase noise, dBc/Hz	10.0 MHz			5.0 MHz	
	LN	ULN	IULN	ULN	IULN
1 Hz	<-112	<-115	≤-118...-120	<-115	≤-120
10 Hz	<-142	≤-144	≤-145	≤-140	≤-145
100 Hz	<-154	<-157	<-159	<-157	<-157
1000 Hz	<-160	<-160	<-165	<-161	<-161
10000 Hz	<-160	<-160	<-168	<-162	<-162

Short-term stability (Allan deviation) per 1 sec	
10.0 MHz	5.0 MHz
< $1 \times 10^{-12}$ (1E-12)	< $2 \times 10^{-12}$ (2E-12)
< $5 \times 10^{-13}$ (5E-13)	< $1 \times 10^{-12}$ (1E-12)
< $4 \times 10^{-13}$ (4E-13)**	< $7 \times 10^{-13}$ (7E-13)***
	< $5 \times 10^{-13}$ (5E-13)***

\*\* only for phase noise ULN option

\*\*\* only for phase noise IULN option. Please consult factory for option 5E-13.

\* - ON/OFF function allows to switch off oscillation while the oven will be operating. An oscillator will have an output signal when the voltage from 2.4 V up to supply voltage will be fed to pin 5. If you do not need to use ON/OFF function you need to feed supply voltage to pin 5 for proper oscillator functioning.

Vibrations:	
Frequency range	10-500 Hz
Acceleration	3 g
Shock: 75 g/ 3±1 ms	
Humidity @ 25 °C	98%
Storage temperature range	-55...+85°C

Frequency stability vs. load changes (±5%)	< $\pm 5 \times 10^{-10}$
Frequency stability vs. power supply changes (±5%)	< $\pm 5 \times 10^{-10}$
Warm-up time within accuracy of $< \pm 2 \times 10^{-8}$ @ 25 °C	<5 min
Power supply (Us)	12V±5%
Steady state current consumption @ +25 °C	<200 mA
Peak current consumption during warm-up **	<500 mA
Frequency pulling range	> $\pm 3.0 \times 10^{-7}$
Control voltage range (Uin)	0...5 V
Reference voltage (Uref)	+5 V
Output	SIN
Level	>350 mV
Load	50 Ohm±5%
Harmonics	>30 dB

\*\* - for the oscillators with the lower operating temperatures >-20 °C.

## 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