

# LOW PROFILE PRECISION OCXO MV200

## Features:

- Package height from 19 mm down to 10 mm
- 5V or 12V power supply
- High stability vs. temperature - up to  $\pm 2 \times 10^{-10}$
- Frequency range 10.0 – 40.0 MHz

Power supply	Output	Package type	
5V	SIN	50.8x50.8x19 mm	Z19
12V	HCMOS	50.8x50.8x16 mm	Z16
		50.8x50.8x12.7 mm	Z12.7
		50.8x50.8x10 mm	Z10

## ORDERING GUIDE: MV200 – C 2 F – 12V – SIN – Z19 – 10.0 MHz – LN

Availability of certain stability vs. operating temperature range (for 5 and 10 MHz)*		$\pm 5 \times 10^{-9}$	$\pm 3 \times 10^{-9}$	$\pm 2 \times 10^{-9}$	$\pm 1 \times 10^{-9}$	$\pm 5 \times 10^{-10}$	$\pm 2 \times 10^{-10}$
		5	3	2	1	05	02
A	0...+55 °C	A	A	A	A	A	A
B	- 10...+60 °C	A	A	A	A	A	C
C	- 20...+70 °C	A	A	A	A	A	C
D	- 40...+70 °C	A	A	A	A	A	C
EX	- 40...+85 °C	A	A	A	A	C	NA

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

\* for 10 mm height - consult factory

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

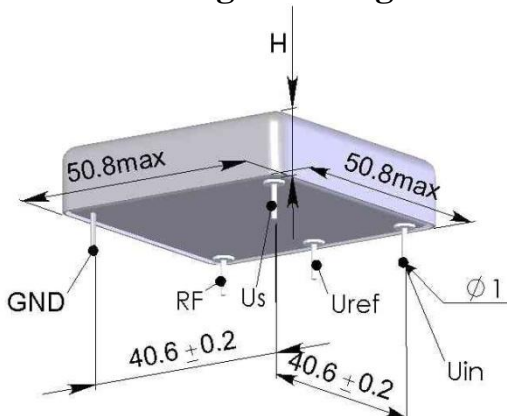
Availability of certain aging values for certain frequencies	Standard frequencies							
	5.0 MHz (5.0 x k) MHz (for Z16)	8.192 MHz (8.192 x k) MHz	10.0 MHz (10.0 x k) MHz	12.8 MHz (12.8 x k) MHz	13.0 MHz (13.0 x k) MHz	16.384 MHz (16.384 x k) MHz	20.0 MHz (20.0 x k) MHz	
H $\pm 2 \times 10^{-7}$ /year	A	A	A	A	A	A	A	A
G $\pm 1 \times 10^{-7}$ /year	A	A	A	A	A	A	A	C
F $\pm 5 \times 10^{-8}$ /year	A	A	A	A	A	C	NA	NA
E $\pm 3 \times 10^{-8}$ /year	A	A	A	C	C	NA	NA	NA
D* $\pm 2 \times 10^{-8}$ /year	A	C	C	NA	NA	NA	NA	NA

A – available, NA – not available, C – consult factory, \* - for Z16

Phase noise, dBc/Hz, for 10 MHz	For 12 V, SIN			
	LN	ILN	ULN*	
1 Hz	<-95	<-100	<-103	<-108
10 Hz	<-125	<-130	<-133	<-137
100 Hz	<-145	<-153	<-155	<-157
1000 Hz	<-150	<-158	<-160	<-161
10000 Hz	<-155	<-160	<-161	<-162

\* for Z16 & Z12.7

## Package drawing:



H=19 mm for Z19; H=16 mm for Z16;  
H=12.7 mm for Z12.7; H=10 mm for Z10.

Vibrations:	
Frequency range	10-200 Hz
Acceleration	5g
Shock:	
Acceleration	75 g
Duration	3±1 ms
Storage temperature range	-55...+85 °C

Short term stability (Allan deviation) per 1 sec (for 10MHz)	< $5 \times 10^{-12}$ ; opt. < $1 \times 10^{-12}$	
Frequency stability vs. load changes	< $\pm 5 \times 10^{-10}$ ; opt. < $\pm 2 \times 10^{-10}$	
Frequency stability vs. power supply changes	< $\pm 5 \times 10^{-10}$ ; opt. < $\pm 2 \times 10^{-10}$	
Warm-up time within accuracy of < $\pm 2 \times 10^{-8}$ @ 25°C	<3 min	
Power supply (Us)	12V±5%	5V±5%
Steady state current consumption @ 25°C	<250mA	<500mA
Peak current consumption during warm-up (for "D" temp. range)	<550mA	<1200mA
Frequency pulling range	> $\pm 4 \times 10^{-7}$	
with external voltage range (Uin)	0...5V	0...4.5V
with external potentiometer	20 kOhm	
Reference voltage (Uref)	+5 V	+4.5 V

Output	HCMOS	SIN
Level	<0.5V... >4.0V	>300 mV (up to 9±0.5dBm - optional for 12V power supply)
Load	10kOhm/30pF	50 Ohm±5%
Rise/Fall time	<6 ns (<3 ns optional)	-
Harmonic suppression	-	>30dBc (>50dBc optional)

## Additional notes:

- Please consult factory for daily aging values. Normally typical correspondence of daily aging per day to aging per year is as following:  $\pm 1 \times 10^{-7}$ /year -  $\pm 1 \times 10^{-9}$ /day;  $\pm 5 \times 10^{-8}$ /year -  $\pm 5 \times 10^{-10}$ /day;  $\pm 3 \times 10^{-9}$ /year -  $\pm 3 \times 10^{-10}$ /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