

MINIATURE PRECISION OCXO MV197

Features:

- Package height from 16 mm, down to 10 mm
- High stability vs. temperature: up to $\pm 3 \times 10^{-10}$
- Long term stability up to $\pm 2 \times 10^{-8}$ /year
- Low phase noise options
- Fast warm-up time up to 1 min
- Available as RoHS
- Available SPI interface manufacturing on factory request
- Frequency range: 8.192 – 20.0 MHz

Power supply	Output	Package type	
12 V	SIN	36x27x16 mm	B16
5 V	HCMOS	36x27x12.7 mm	B12.7
		36x27x10 mm	B10

ORDERING GUIDE: MV197-C 1 F-12V-SIN-B12.7-LN-10.0 MHz

Availability of certain stability vs. operating temperature range (for 10 MHz)		$\pm 5 \times 10^{-9}$	$\pm 3 \times 10^{-9}$	$\pm 2 \times 10^{-9}$	$\pm 1 \times 10^{-9}$	$\pm 7.5 \times 10^{-10}$	$\pm 5 \times 10^{-10}$	$\pm 3 \times 10^{-10}$
A	0...+55°C	A	A	A	A	A	A	A
B	-10...+60°C	A	A	A	A	A	A	C
C	-20...+70°C	A	A	A	A*	A*	A*	NA
D	-40...+70°C	A	A	A	A*	A*	A*	NA
EX	-40...+85°C	A	A	A	A*	A*	C	NA

*-“C” for B10 package.

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

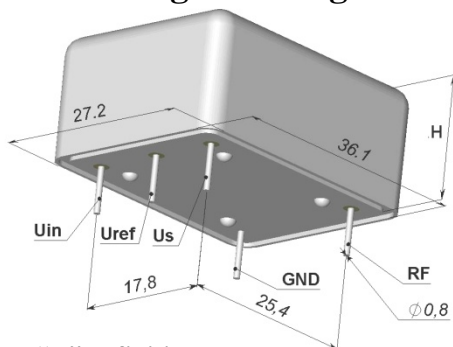
For other temperature ranges see designation at the end of Data Sheet.

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

Phase noise, dBc/Hz, for 10MHz	-	LN	ULNF	ULN	IULN
		Only SIN	For 12V, SIN		
1 Hz	<-95	<-100	<-100	<-103	<-105**
10 Hz	<-125	<-130	<-130	<-133	<-135**
100 Hz	<-145	<-153	<-155	<-155	<-155
1000 Hz	<-150	<-158	<-160	<-160	<-160
10000 Hz	<-155	<-160	<-165	<-161	<-161

** C - consult factory

Package drawings:



For “H” definition please see package type

Vibrations:	
Frequency range	10-500 Hz
Acceleration	5 g

Shock:	
Acceleration	75 g
Duration	3±1 ms

Humidity @ 25 °C	98%
Storage temperature range	-55...+85 °C

*** Available on request

Additional notes:

- Start-up time < 100 mSec – optional.
- Option with digital frequency control will be available soon.
- Please consult factory for daily aging values. Normally typical correspondence of daily 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; $\pm 3 \times 10^{-8}$ /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

Short term stability (Allan deviation) per 1 sec, for 10 MHz	< 5×10^{-12}
Optional***	< 2×10^{-12}
Frequency stability vs. load changes ($\pm 5\%$)	< 5×10^{-10}
Optional***	< 2×10^{-10}
Frequency stability vs. power supply changes ($\pm 5\%$)	< 5×10^{-10}
Optional***	< 2×10^{-10}
Warm-up time within accuracy of $< 2 \times 10^{-8}$ @ 25°C	<3 min
Optional***, within accuracy of $< 1 \times 10^{-7}$ @ 25°C	<1 min

Power supply (Us)	12V $\pm 5\%$	5V $\pm 5\%$
Steady state current consumption @ +25°C	<150 mA	<400 mA
Peak current consumption during warm-up (for “D” temp. range)	<400 mA	<1000 mA
Frequency pulling range (for 10 MHz)	$> \pm 4.0 \times 10^{-7}$	
Control voltage range (Uin)	0...5 V	0...4.5V
Reference voltage (Uref)	+5 V	+4.5 V

Output	HCMOS		SIN
	Level	“0” <0.5V “1” >4.0V	>300 mV RMS (to 9±1 dBm - optional for 12V power supply)***
Load	10kOhm/30pF	50 Ohm $\pm 5\%$	
Rise/Fall time	<6 ns (<3 ns optional)	-	
Harmonics	-	>30 dBc	