

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
	LVCMS	36x27x10 mm	B10

ORDERING GUIDE: MV197-C 1 F-12V-SIN-B12.7-LN-10.0 MHz-5E-13

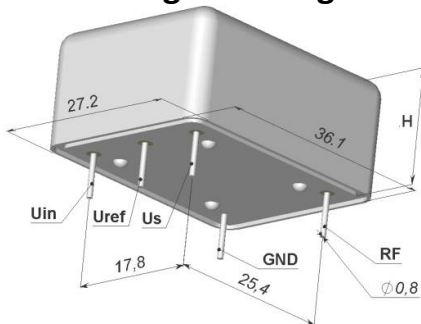
Availability of certain stability vs. operating temperature range (for 10 MHz)		$\pm 5 \times 10^{-9}$	$\pm 3 \times 10^{-9}$	$\pm 2 \times 10^{-9}$	$\pm 1 \times 10^{-9}$	$\pm 7,5 \times 10^{-10}$	$\pm 5 \times 10^{-10}$	$\pm 3 \times 10^{-10}$
		5	3	2	1	075*	05*	03*
A	0...+55°C	A	A	A	A	A	A	A
B	-10...+60°C	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	A	NA

*- for oscillators with package $\geq 12,7$ mm and standard, LN and ULNF phase noise options
 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, MHz				
		10.0	12.8	13.0	16.384	20.0
H	$\pm 2 \times 10^{-7}$ /year	A	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	A
E	$\pm 3 \times 10^{-8}$ /year	A	A	C	NA	NA
D	$\pm 2 \times 10^{-8}$ /year	A	C	C	NA	NA

Phase noise, dBc/Hz, for 10MHz, SIN		LN	ULNF	ULN	IULN	EULN
			For 12V only			
			-	-	-	-
1 Hz	<-95	<-100	<-100	<-103	<-110	-117
10 Hz	<-125	<-130	<-130	<-133	<-138	-140
100 Hz	<-145	<-153	<-155	<-155	<-155	-155
1000 Hz	<-150	<-158	<-160	<-160	<-160	-160
10000 Hz	<-155	<-160	<-165	<-161	<-161	-161

Package drawings:



For "H" definition please see package type

Vibrations:	
Frequency range	10-500 Hz
Acceleration	10 g

Shock:	
Acceleration	100 g
Duration	3±1 ms

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

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 V or 12 V	< 5×10^{-12}	5E-12
Short term stability (Allan deviation) per 1 sec, for 10 MHz, *12 V Only	< 1×10^{-12}	1E-12
Frequency stability vs. load changes ($\pm 5\%$)	< 5×10^{-13}	5E-13*
Frequency stability vs. power supply changes ($\pm 5\%$)	< 3×10^{-13}	3E-13*
Warm-up time	-within accuracy of $\pm 2 \times 10^{-8}$ @ 25 °C -within accuracy of $\pm 1 \times 10^{-7}$ @ 25 °C	<3 min <1 min (option)

Power supply (Us)	12V±5%	5V±5%
Steady state current consumption @ +25 °C	<150 mA	<400 mA
Peak current consumption during warm-up (with t<-20°C "Still air")	<400 mA	<1000 mA
Frequency pulling range (for 10 MHz)	> $\pm 4.0 \times 10^{-7}$	
Control voltage range (Uin)	0...5 V	0...4.5 V
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±5%
Rise/Fall time	<6 ns (<3 ns option)	-
Harmonics	-	>30 dBc

