

ULTRA MINIATURE PRECISION OCXO MV199

Features:

- Ultra miniature package: 20.35x20.35x12.7 mm
- High stability vs. temperature: up to $\pm 1 \times 10^{-9}$
- Long term stability: up to $\pm 3 \times 10^{-8}$ /year
- Available as RoHS
- Frequency range: 8.192 – 20.0 MHz

Power supply	Output
12V	SIN*
5V	HCMOS
3.3V	

* for 12V and 5V

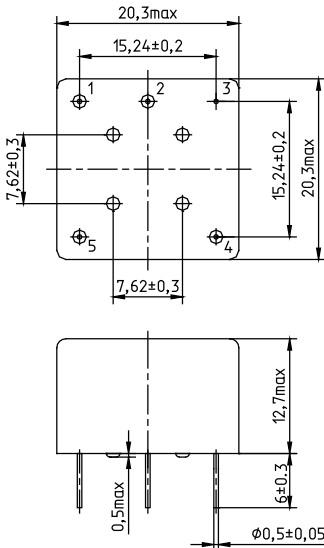
ORDERING GUIDE: MV199-C 3 F-12V-SIN-10.0MHz-LN

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

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

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

Package drawing:



1	Us
2	RF
3	GND
4	Uin
5	Uref

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

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	NA	NA	A	A
G	$\pm 1 \times 10^{-7}$ / year	A	A	A	A	C
F	$\pm 5 \times 10^{-8}$ / year	A	A	A	C	NA
E	$\pm 3 \times 10^{-8}$ / year	A	C	C	NA	NA

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

Phase noise, dBc/Hz, for 10MHz, SIN	LN	
	For 12V, SIN	
1 Hz	<-95	<-100
10 Hz	<-125	<-130
100 Hz	<-145	<-150
1000 Hz	<-150	<-155
10000 Hz	<-155	<-160

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

Power supply (Us) @ still air	12V $\pm 5\%$	5V $\pm 5\%$	3.3 V $\pm 5\%$
Steady state current consumption @ 25°C	<100 mA	<250 mA	<450 mA
Peak current consumption during warm-up (for "D" temp. range)	<400 mA	<650 mA	<1000 mA
Frequency pulling range (for 10 MHz)	> $\pm 4.0 \times 10^{-7}$		> $\pm 3.0 \times 10^{-7}$
Control voltage range (Uin)	0...5 V	0...4.5V	0...+2.8 V
Reference voltage (Uref)	+5 V	+4.5 V	+2.8 V

Output	HCMOS		SIN
Us	5V; 12V	3.3V	5V; 12V
Level «0»	<0.5V	<0.5V	>300 mV
Level «1»	>4.0V	>2.4V	
Load	10kOhm/30pF		50 Ohm $\pm 5\%$
Harmonics	-		>30 dBc

Additional notes:

- 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