ULTRA MINIATURE OCXO MV118

Features:

- ***Small package of 20x20x10 mm***
- ***High stability vs. temperature: up to ±1x10^{-8}***
- ***Frequency range: 10.0 – 25.0 MHz***
- ***Supply voltage: 3.3V or 5V***
- ***Available as RoHS***
- ***Output type: HCMOS or SIN***

Power Supply
5 V
3.3 V

Output type
HCMOS
SIN

ORDERING GUIDE: MV118–B20G–3.3V–SIN–10.0MHz

Availability of certain stability vs. operating temperature range		±1x10^{-7}	±5x10^{-8}	±2x10^{-8}	±1x10^{-8}
		100	50	20	10
A	0…+55ºC	A	A	A	C
B	-10…+60ºC	A	A	A	C
C	-20…+70ºC	A	A	A	NA
D*	-40…+70ºC	A	A	C	NA
EX*	-40…+85ºC	A	C	NA	NA

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

* for 5V power supply only

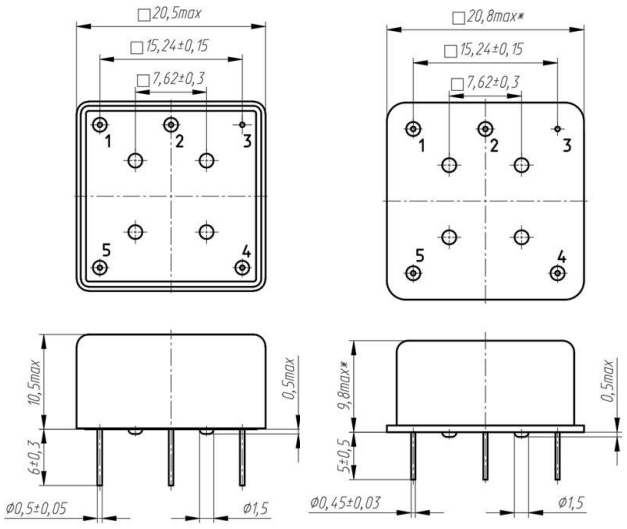
For other temperature ranges see designation at the end of Data Sheet

Availability of certain aging values for certain frequencies		Standard frequencies, MHz				
		10.0	12.8	13.0	16.384	20.0
H	±2.0x10^{-7}/year	A	A	A	A	A
G	±1.0x10^{-7}/year	A	A	A	A	C
F	±5.0x10^{-8}/year	A	A	A	C	NA
E	±3.0x10^{-8}/year	A	C	C	NA	NA

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

Package drawing:

soldered package **welded package**



Pin's designation	
1	Us
2	Rf
3	GND
4	Uin
5	Uref

Frequency stability vs. load changes	<±5x10^{-9}	
Frequency stability vs. power supply changes	<±5x10^{-9}	
Power supply (Us)	5V±5%	3.3V±5%
Current consumption at steady state @ 25ºC	< 150 mA	< 250 mA
Peak current consumption during warm-up @ 25ºC	< 450 mA	< 700 mA
Warm-up time within <±1x10^{-7} @ 25 ºC	<3 min	
Frequency pulling range	>±5x10^{-7}	
with external voltage range (Uin)	0…+4.5 V	0…+3.0 V
or with external potentiometer	20 kOhm	
reference voltage output (Uref)	+ 4.5 V	+3.0 V
Pulling slope	Positive	

Output	HCMOS		SIN
Level	For 5V: 4.0/0.4V	For 3.3V: 2.4/0.3V	>400 mV
Load	10 kOhm/15 pF		50 Ohm±10%
Harmonic suppression	-		>40 dBc

Phase noise, dB/Hz, at	10 - 13 MHz	> 13 – 25 MHz
1 Hz	<-90	<-75
10 Hz	<-120	<-105
100 Hz	<-140	<-125
1000 Hz	<-145	<-135
10000 Hz	<-150	<-145
Short term stability (Allan deviation) per 1 sec	<5x10^{-11} <1x10^{-11}*	<5x10^{-11} <2x10^{-11}*

*** consult factory**

Vibrations: Frequency range Acceleration	10-500 Hz 10g
Shock: Acceleration Duration	75 g 3±1 ms
Storage temperature range	-55…+85 ºC

Additional notes:

- **Showed values of frequency stability vs. temperature usually are tested in Still Air test conditions. Please inform factory about different conditions in operation to provide appropriate tests.**
- **Please consult factory for daily aging values. Normally typical correspondence of daily aging per day to aging per year is as following: ±2x10^{-7}/year - ±2x10^{-9}/day; ±1x10^{-7}/year - ±1x10^{-9}/day; ±5x10^{-8}/year - ±5x10^{-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), ºC:**

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

MORION, Inc.

13a, KIMa Ave., St.Petersburg, 199155, RUSSIA. http://www.morion.com.ru

Tel.:+7-812-350-9243; 332-5032. Fax:+7-812-350-7290. e-mail: sale@morion.com.ru

Due to continuous development and improvement Morion, Inc. reserves the right to modify design or specifications of its products without prior notice

Revision 3.January 2021