

ULTRA MINIATURE OCXO MV118

Features:

- Small package of 20x20x10 mm
- High stability vs. temperature: up to $\pm 1 \times 10^{-8}$
- 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		$\pm 1 \times 10^{-7}$	$\pm 5 \times 10^{-8}$	$\pm 2 \times 10^{-8}$	$\pm 1 \times 10^{-8}$
		100	50	20	10
A	0...+55°C	A	A	A	C
B	-10...+60°C	A	A	A	C
C	-20...+70°C	A	A	A	NA
D*	-40...+70°C	A	A	C	NA
EX*	-40...+85°C	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

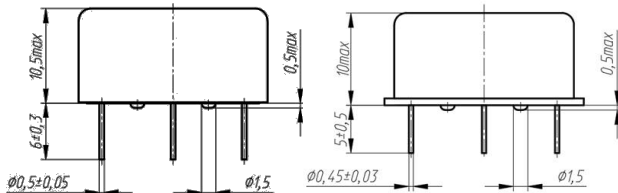
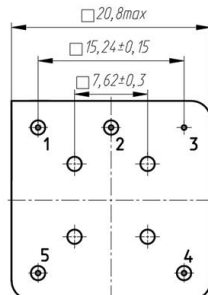
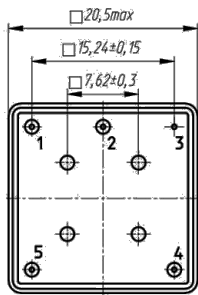
Availability of certain aging values for certain frequencies		Standard frequencies, MHz				
		10.0	12.8	13.0	16.384	20.0
H	$\pm 2.0 \times 10^{-7}$ /year	A	A	A	A	A
G	$\pm 1.0 \times 10^{-7}$ /year	A	A	A	A	C
F	$\pm 5.0 \times 10^{-8}$ /year	A	A	A	C	NA
E	$\pm 3.0 \times 10^{-8}$ /year	A	C	C	NA	NA

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	$< \pm 5 \times 10^{-9}$	
Frequency stability vs. power supply changes	$< \pm 5 \times 10^{-9}$	
Power supply (Us)	5V $\pm 5\%$	3.3V $\pm 5\%$
Current consumption at steady state @ 25°C	< 150 mA	< 250 mA
Peak current consumption during warm-up @ 25°C	< 450 mA	< 700 mA
Warm-up time within $\pm 1 \times 10^{-7}$ @ 25 °C	< 3 min	
Frequency pulling range	$> \pm 5 \times 10^{-7}$	
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
	For 5V: 4.0/0.4V	For 3.3V: 2.4/0.3V	>400 mV
Level			
Load	10 kOhm/15 pF		50 Ohm $\pm 10\%$
Harmonic suppression	-		>40 dBc

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

* consult factory

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

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: $\pm 2 \times 10^{-7}$ /year - $\pm 2 \times 10^{-9}$ /day; $\pm 1 \times 10^{-7}$ /year - $\pm 1 \times 10^{-9}$ /day; $\pm 5 \times 10^{-8}$ /year - $\pm 5 \times 10^{-10}$ /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