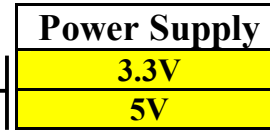


PRECISION SMALL SIZE OCXO MV178

Features:

- Stability vs. temperature - up to $\pm 5.0 \times 10^{-9}$
- Small size of 36.1x27.2x15 mm
- 3.3V or 5V power supply
- Frequency range 5.0 - 10.0 MHz
- Available as RoHS



ORDERING GUIDE: MV178 – B 10 F – [5V] – 10.0 MHz

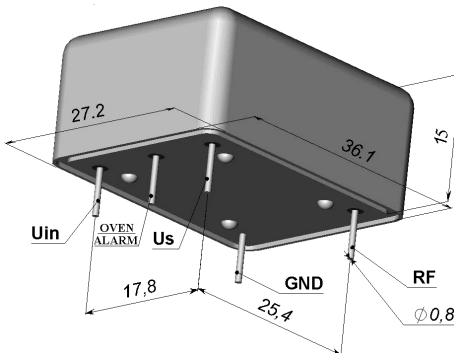
Availability of certain stability vs. operating temperature range		$\pm 3 \times 10^{-8}$	$\pm 1 \times 10^{-8}$	$\pm 5 \times 10^{-9}$
		30	10	5
A	0...+55 °C	A	A	A
B	- 10...+60 °C	A	A	A
C	- 20...+70 °C	A	A	A
D	- 40...+70 °C	A	A	C
EX	-40...+85 °C	A	A	NA

Availability of certain aging values for certain frequencies		Standard frequencies		
		5.0 MHz	8.192 MHz	10.0 MHz
G	$\pm 1 \times 10^{-7}$ /year	A	A	A
F	$\pm 5 \times 10^{-8}$ /year	A	A	A
E	$\pm 3 \times 10^{-8}$ /year	A	A	A
D	$\pm 2 \times 10^{-8}$ /year	A	NA	NA

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

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

Package drawing:



Short term stability (Allan deviation) per 1 sec	$< 2 \times 10^{-11}$	
Frequency stability vs. load changes	$< \pm 5 \times 10^{-9}$	
Frequency stability vs. power supply changes	$< \pm 5 \times 10^{-9}$	
Power supply	3.3V $\pm 5\%$	5V $\pm 5\%$
Current consumption at steady state @ 25°C	< 380 mA	< 300 mA
Peak current consumption during warm-up @ 25°C	< 1.2 A	< 0.8 A
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	0...+3.0 V	0...+4.5 V

Vibrations:	
Frequency range	10-500 Hz
Acceleration	10g
Shock:	
Acceleration	100 g
Storage temperature range	-55...+85 °C

Output	HCMOS
Load	10 kOhm / 15 pF
Phase noise, (for 10 MHz)	
1 Hz	< -80 dBc/Hz
10 Hz	< -115 dBc/Hz
100 Hz	< -135 dBc/Hz
1000 Hz	< -145 dBc/Hz
10000 Hz	< -148 dBc/Hz

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.
- 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

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

Status: November 2008