

# DOUBLE OVEN LOW PROFILE ULTRA PRECISION OCXO MV180

## Features:

- Low sensitivity to rapid changes of ambient temperature
- Low profile package with the height of 19(17) mm
- High stability vs. temperature - up to  $\pm 1 \times 10^{-10}$
- Available as RoHS

<b>Power supply</b>	<b>Output</b>	<b>Package type</b>	
5V	SIN	Z19	51.3x51.3x19 mm
12V	HCMOS	Z17	51.3x51.3x17 mm
		Y19	51.3x41.3x19 mm

## ORDERING GUIDE: MV180-B 02 E -12V- SIN - Z19 -10.0 MHz

Availability of certain stability vs. operating temperature		$\pm 1 \times 10^{-9}$	$\pm 5 \times 10^{-10}$	$\pm 3 \times 10^{-10}$	$\pm 2 \times 10^{-10}$	$\pm 1 \times 10^{-10}$
		1	05	03	02	01
A	0...+55 °C	A	A	A	A	A
B	- 10...+60 °C	A	A	A	A	A
C	- 20...+70 °C	A	A	A	A	C
D	- 40...+70 °C	A	A	A	C	NA

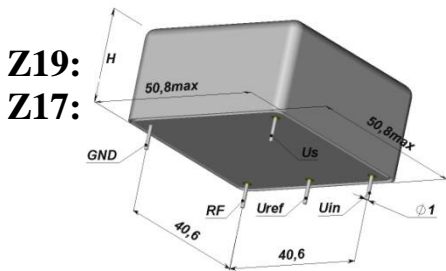
A – available, NA – not available, C – consult factory

For other temperature ranges see designation in the order guide

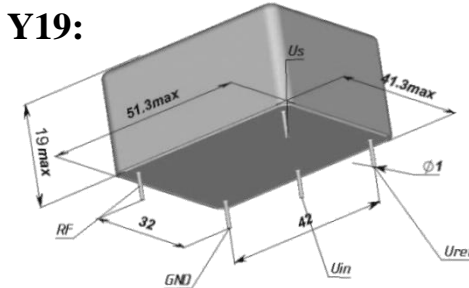
Availability of certain aging values for certain frequencies		Standard frequencies			
		5.0 MHz	8.192 MHz	10.0 MHz	16.384 MHz
F	$\pm 5 \times 10^{-8}$ /year	A	A	A	A
E	$\pm 3 \times 10^{-8}$ /year	A	A	A	A
D	$\pm 2 \times 10^{-8}$ /year	A	C	A	C
C	$\pm 1 \times 10^{-8}$ /year	C	NA	C	NA

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

## Package drawings:



H=19 mm for Z19; H=17 mm for Z17.



Short term stability (Allan deviation) per 1 sec, for 5 MHz and 10 MHz	$< 2 \times 10^{-12}$	
Frequency stability vs. load changes	$< \pm 1 \times 10^{-10}$	
Frequency stability vs. power supply changes	$< \pm 1 \times 10^{-10}$	
Warm-up time with accuracy of $< \pm 1 \times 10^{-8}$ @ 25°C	$< 5$ min	
Power supply (Us)	12V $\pm 5\%$	5V $\pm 5\%$
Steady state current consumption @ 25°C	$< 250$ mA	$< 600$ mA
Peak current consumption during warm-up: For "D" temperature range:	$< 700$ mA	$< 1.4$ A
	$< 900$ mA	Consult
Frequency pulling range	$> \pm 3 \times 10^{-7}$	
with external control voltage range (Uin)	0...+5 V	0...+4 V
Reference voltage (Uref)	+5 V	+4 V
Output	SIN	HCMOS
Level	+7 $\pm 2$ dBm	$< 0.5$ V / $> 4.5$ V
Load	50 Ohm $\pm 10\%$	10kOhm/30pF
Harmonic and subharmonics suppression	$> 35$ dBc	-
Phase noise, typical, dBc/Hz	for 10 MHz	for 5 MHz
1 Hz	-100	-105
10 Hz	-125	-130
100 Hz	-140	-145
1000 Hz	-145	-150
10000 Hz	-150	-155

## 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:  $\pm 5 \times 10^{-8}$ /year -  $\pm 5 \times 10^{-10}$ /day;  $\pm 3 \times 10^{-8}$ /year -  $\pm 3 \times 10^{-10}$ /day;  $\pm 2 \times 10^{-8}$ /year -  $\pm 2 \times 10^{-10}$ /day;  $\pm 1 \times 10^{-8}$ /year -  $\pm 1 \times 10^{-10}$ /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:

<b>Vibrations:</b>		<b>Shock:</b>	
Frequency range	10-200 Hz	Acceleration	150 g
Acceleration	5g	Duration	3 $\pm 1$ ms
		Storage temperature range	-55...+80 °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