

DOUBLE OVEN ULTRA PRECISION OCXO MV360M

Features:

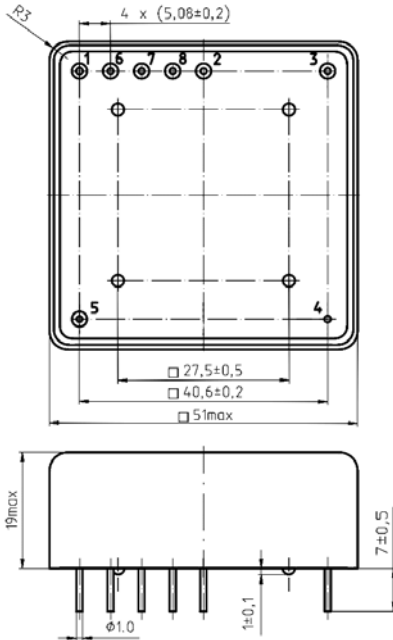
- High stability vs. temperature: up to $\pm 3 \times 10^{-11}$
- Standard frequency: 10.0 MHz
- Standard package: 50.8x50.8x19 mm
- High long-term stability: up to $\pm 1 \times 10^{-8}$ /year
- Power supply: 5 V and 12 V
- Analog or Digital frequency control
- Applications: 5G, Telecommunication, Test & Measurement

Supply voltage	Type of frequency control
5 V	- Analog frequency control
12 V	D Digital frequency control I ² C
	SPI Digital frequency control SPI

ORDERING GUIDE: MV360M – C 003 D – 12V – 10.0MHz – D

Availability of certain stability vs. operating temperature range		$\pm 1 \times 10^{-10}$	$\pm 5 \times 10^{-11}$	$\pm 3 \times 10^{-11}$
		01	005	003
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	A
EU	-40...+75°C	A	A	A
EX*	-40...+85°C	A	A	A

A – available
* for 5V only



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

Phase noise, dBc/Hz, for 10MHz	-, D	SPI
1 Hz	<-100	<-95
10 Hz	<-130	<-125
100 Hz	<-150	<-150
1000 Hz	<-150	<-150
10000 Hz	<-155	<-155

Short term stability (Allan deviation) per 1 sec For SPI Option	< 2×10^{-12} < 5×10^{-12} < 1×10^{-12}
Frequency stability vs. load changes ($\pm 5\%$)	< $\pm 1 \times 10^{-11}$
Frequency stability vs. power supply changes ($\pm 5\%$)	< $\pm 1 \times 10^{-11}$
Warm-up time within accuracy of $\pm 5 \times 10^{-8}$ @ 25°C	<15 min.
Power supply	5V $\pm 5\%$ 12V $\pm 5\%$
U _{DAC}	4,1 V 5 V

Digital frequency control by I ² C protocol	
Frequency pulling range	$\geq 2,5 \times 10^{-7}$
DAC type	LTC2606-1
Chip address	0010000

Digital frequency control by SPI protocol	
DAC type	MAX5719

Analog frequency control	
Frequency pulling range	$\geq 2,5 \times 10^{-7}$
with external control voltage range	0...4,1 0...5
Reference voltage output	+4,1 V +5 V

Steady state current consumption @ +25°C	<600 mA <300 mA
Peak current consumption during warm-up	<2 A <1 A

Output	SIN
Level	>300 mV RMS
Load	50 Ohm $\pm 5\%$
Harmonic suppression	>30 dBc

Vibrations:	
Frequency range	10-200 Hz
Acceleration	5 g
Shock:	75 g/ 3 ± 1 ms
Humidity @ 25 °C	98%
Storage temperature range	-55...+85°C

Pin	Analog	D	SPI
1	Control voltage Input	SDA*	DIN*
2	Reference voltage Output	SCL*	SCLK*
3	RF output	RF output	RF output
4	Ground (case)	Ground (case)	Ground (case)
5	Power supply	Power supply	Power supply
6	Ground for control voltage Input	Not used	Not used
7	Not used	Not used	CS*
8	Not used	Not used	LDAC*

* inputs connected to U_{DAC} via 10 kOhm

Additional notes:

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

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