

# LOW PROFILE LOW NOISE OCXO MV331

## Features:

- Low profile package 25.8x25.8x10.6 mm
- Low phase noise
- Long term stability: up to  $\pm 2 \times 10^{-8}$ /year
- Frequency range: 10.0 – 20.0 MHz

Output	SIN	Supply voltage	12 V
	HCMOS		5 V

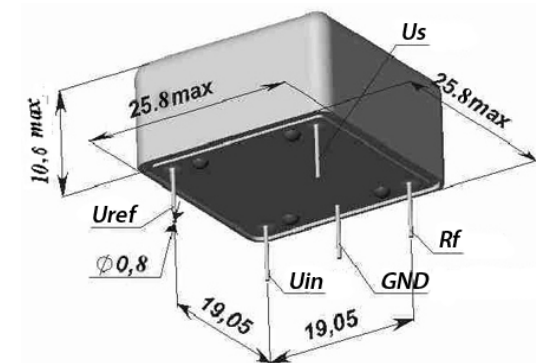
## ORDERING GUIDE: MV331-C 3 G-12V-SIN-10.0MHz-LN-5E-12

Availability of certain stability vs. operating temperature range (for 10 MHz)		$\pm 1 \times 10^{-8}$	$\pm 5 \times 10^{-9}$	$\pm 3 \times 10^{-9}$	$\pm 2 \times 10^{-9}$
		10	5	3	2
A	0...+55°C	A	A	A	A
B	-10...+60°C	A	A	A	A
C	-20...+70°C	A	A	C	NA
D	-40...+70°C	A	A	NA	NA
EX	-40...+85°C	A	A	NA	NA

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

Availability of certain aging values for certain frequencies		Standard frequencies, MHz				
		10	12.8	13	16.384	20
H	$\pm 2 \times 10^{-7}$ /year	NA	NA	NA	A	A
G	$\pm 1 \times 10^{-7}$ /year	A	A	A	A	A
F	$\pm 5 \times 10^{-8}$ /year	A	A	A	A	A
E	$\pm 3 \times 10^{-8}$ /year	A	C	C	NA	NA
D	$\pm 2 \times 10^{-8}$ /year	C*	C	C	NA	NA

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



Phase noise, dBc/Hz, (for 10MHz)	(standard)	LN	ILN (for 12V, SIN)	ULN (for 12V, SIN)
1 Hz	-95	-100	-100	-95
10 Hz	-125	-130	-130	-125
100 Hz	-145	-145	-150	-152
1000 Hz	-150	-155	-155	-160
10000 Hz	-155	-155	-160	-165

Vibrations:	
Frequency range	10-500 Hz
Acceleration	5 g
Shock:	
Acceleration	75g
Duration	3±1 ms
Humidity @ +25 °C	98%
Storage temperature range, °C	-55...+85°C

Short-term stability (Allan Deviation) for 1s, for 10 MHz	$< 5 \times 10^{-12}$ $< 2 \times 10^{-12}$ (option**)	
Frequency stability vs. load changes ±5%	$< \pm 5 \times 10^{-10}$	
Frequency stability vs. voltage changes ±5%	$< \pm 5 \times 10^{-10}$	
Warm-up time within accuracy $\pm 2 \times 10^{-8}$ , @ +25°C	$< 3$ min	
Supply voltage	12V±5%	5V±5%
Steady state current consumption @ +25°C	$< 130$ mA	$< 300$ mA
Peak current consumption during warm-up (for "D" temp. range at still air)	$< 400$ mA	$< 1000$ mA
Frequency pulling range (for 10 MHz) with external voltage range (Uin)	$> \pm 4.0 \times 10^{-7}$	
Reference voltage output (Uref)	+5 V	+4.5 V
Output	HCMOS	SIN
Level	"0"	$< 0.5$ V
	"1"	$> 4.0$ V
Load	10 kOhm/30 pF	50 Ohm±5%
Harmonics	-	$> 30$ dBc

- \*For all options of phase noise, except ULN
- \*\*For LN and ILN options of phase noise only
- \*\*\*For ULN option of phase noise only

## Additional notes:

For non standard operating temperature ranges please use the following two letters designations (first letter for lower limit, second 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