PRECISION OCXO IN SMD PACKAGE MV115

Features:

- ***High frequency stability vs. temperature - up to ±5.0x10^{-9}***
- ***Standard 25x22 mm SMD package***
- ***5 V or 3.3 V supply voltage***
- ***HCMOS or SIN output***
- ***Frequency range: 10.0 – 40.0 MHz***
- ***Available as RoHS***

Power Supply	Output type	Package
5 V	HCMOS	C14.0
3.3 V	SIN	C12.7

ORDERING GUIDE: MV115-B 20 F-5V - HCMOS-10.0MHz-2- C12.7

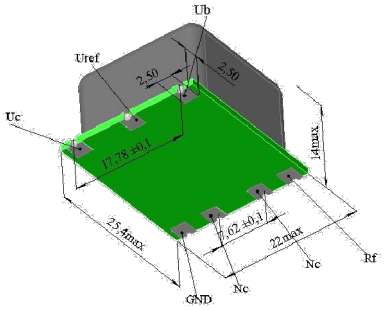
Availability of certain stability vs. operating temperature range		± 5x10^{-8}	± 2x10^{-8}	± 1x10^{-8}	± 5x10^{-9}
		50	20	10	5
A	0…+55 °C	A	A	A	A
B	- 10…+60 °C	A	A	A	C
C	- 20…+70 °C	A	A	A	C
D*	-40…+70 °C	A	A	C	NA
EX*	-40…+85 °C	A	C	NA	NA

* for 5 V power supply only.

Availability of certain aging values for certain frequencies		Standard frequencies: 10.0 MHz	12.8 MHz	13.0 MHz	16.384 MHz	20.0 MHz
		Multiplied frequencies: 20.0 MHz	25.6 MHz	26.0 MHz	32.768 MHz	40.0 MHz
H	±2x10^{-7}/year	A	A	A	A	A
G	±1x10^{-7}/year	A	A	A	A	C
F	±5x10^{-8}/year	A	A	A	C	NA
E	±3x10^{-8}/year	A	C	C	NA	NA

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

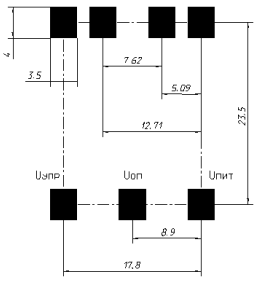
Package drawing:



Phase noise, typical, dBc/Hz (for 10 MHz)	5 V			3.3 V		
	-	2*	1*	-	2*	1*
1 Hz	-	<-90	<-100	-	<-85	<-95
10 Hz	<-120	<-120	<-130	<-115	<-115	<-125
100 Hz	<-135	<-140	<-145	<-130	<-135	<-140
1000 Hz	<-145	<-150	<-150	<-140	<-145	<-145
10000 Hz	<-150	<-155	<-155	<-145	<-150	<-150

* for SIN output only.
Please consult factory for availability of options 1 and 2.

Recommended PCB layout:



Outputs designations

1. Ub - Power supply
2. Uref – Reference voltage output
3. Uc – Control voltage input
4. GND – Ground
5. NC – Not connected
6. NC – Not connected
7. Rf - Rf output

Vibrations: Frequency range Acceleration	10-500 Hz 10g
Shock: Acceleration Duration	100 g 3±1 ms
Storage temperature range	-55…+85 °C

Short term stability (Allan deviation) per 1 sec, for 10 MHz	<5x10^{-12}	
Frequency stability vs. load changes	<±3x10^{-9}	
Frequency stability vs. power supply changes	<±3x10^{-9}	
Power supply (Ub)	5V±5%	3.3V±5%
Current consumption at steady state @ 25°C	< 200mA	< 300mA
Peak current consumption during warm-up	< 600mA	< 750mA
Warm-up time within <±1x10^{-7} @ 25 °C	<3 min	
Frequency pulling range	>±5x10^{-7}	
with external voltage range (Uc)	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
Level	For 5 V: 4.5/0.5V	For 3.3 V: 3/0.3 V	>225 mV (0 dBm)
Load	10 kOhm/15 pF		50 Ohm

Additional notes:

- **Please consult factory for daily aging values.**
  Normally typical correspondence of daily aging per day to aging per year is as following: ±2x10^{-7}/year - ±2x10^{-9}/day; ±1x10^{-7}/year - ±1x10^{-9}/day; ±5x10^{-8}/year -±5x10^{-10}/day.
- **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

1750 Meridian Ave. #5128, San Jose, CA 95150
Tel: 408-329-8108, Email: sales@morion-us.com

Revision 4. October 2019