



MV354

Oven Controlled Crystal Oscillator
100 MHz

Issued 1/4/17

Your dedicated source for crystal oscillators and filters.

New

Features

- Small Surface Mount Package: 21 x 14 x 7.5 mm
- Low Phase Noise <-177 dBc/Hz @ 100 kHz Offset
- High Stability vs. Temperature: up to $\pm 5 \times 10^{-8}$
- Short Warm-up Time: less than 2 minutes
- Sinewave Output
- Power Supply: 5V

Applications

- Frequency synthesizer
- Test equipment
- Network clock
- Base station

Specifications

Temperature Range	Temperature Stability Availability		Comments
	High	Higher	
0 to +55° C	$<\pm 5 \times 10^{-7}$	$<\pm 5 \times 10^{-8}$	
-10 to +60° C	$<\pm 5 \times 10^{-7}$	$<\pm 7.5 \times 10^{-8}$	Contact factory for $<\pm 5 \times 10^{-8}$
-20 to +70° C	$<\pm 5 \times 10^{-7}$	$<\pm 1 \times 10^{-7}$	Contact factory for $<\pm 7.5 \times 10^{-8}$
-40 to +70° C	$<\pm 5 \times 10^{-7}$	$<\pm 3 \times 10^{-7}$	Contact factory for $<\pm 1 \times 10^{-7}$

Temperature ranges from -60° C to +85° C available. Contact factory and see ordering designations at the end of this data sheet.

Long Term Stability (Yearly Aging) Availability

Aging Options	Comments
Option J	$<\pm 5 \times 10^{-7}$
Option I	$<\pm 3 \times 10^{-7}$
Option H	$<\pm 2 \times 10^{-7}$
Option G	$<\pm 1 \times 10^{-7}$

See ordering designations at the end of this data sheet.

Short Term, Pulling & Pushing Stability

Specification	Standard	Option	Comments
Stability vs. Load	$<\pm 2.0 \times 10^{-8}$	-	
Stability vs. power supply ($\pm 10\%$)	$<\pm 5.0 \times 10^{-8}$	-	
Warm-up time to w/ in $<\pm 2 \times 10^{-7}$	<2 minutes	-	@25° C

Specifications-Continued

Phase Noise, 100 MHz, Sinewave (dBc/Hz)

Offset	Option	5 V		
		1	2	3
10 Hz		< -97	< -100	< -100
100 Hz		< -130	< -132	< -135
1 kHz		< -160	< -160	< -162
10 kHz		< -173	< -174	< -176
100 kHz		< -175	< -176	< -177

See ordering designations and noise plots at the end of this data sheet.

Output Parameters

Output	5 V
Level	>600 mV
Load	50 Ohms \pm 10%
Rise/Fall Time	-
Harmonics	< -25 dBc

See ordering designations at the end of this data sheet.

Power Supply & Voltage Control Parameters

Specification	5V \pm 10%
Steady state current @ 25° C	< 250 mA
Peak warm-up current @ 25° C	< 450 mA
Frequency Adjust range	$>\pm 2.5 \times 10^{-6}$
Frequency Adjust Voltage (Uin)	0 to +4.5V
Reference Voltage (Uref)	4.5V to 4.8V

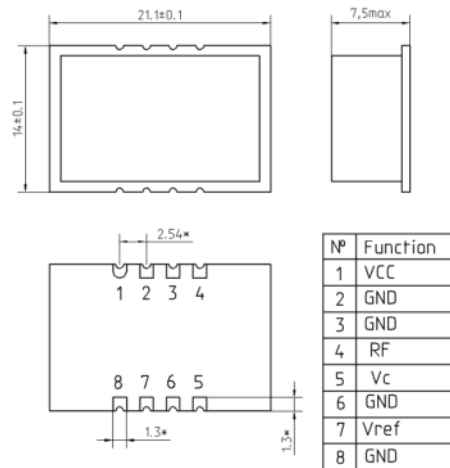
See ordering designations at the end of this data sheet.

Environmental Parameters

Specification	Conditions
Vibration Frequency	10-500 Hz
Vibration Acceleration	5 gs
Shock Acceleration	-
Shock Duration	-
Humidity	-
Storage Temperature	-55 to +80° C
RoHs	Option

Contact factory for extended environmental conditions.

Outline Drawing



Ordering Guide

MV354- B 300 J - 3 - 100MHz

Availability of certain stability vs. operating temperature range.

		$\pm 5 \times 10^{-7}$	$\pm 3 \times 10^{-7}$	$\pm 1 \times 10^{-7}$	$\pm 7.5 \times 10^{-8}$	$\pm 5 \times 10^{-8}$
		500	300	100	75	50
A	0 to +55° C	A	A	A	A	A
B	-10 to +60° C	A	A	A	A	C
C	-20 to +70° C	A	A	A	C	N
D	-40 to +70° C	A	A	C	N	N

A=Available, C=Contact factory, N=Not available

Frequency Range:

Standard Frequency: 100.0 MHz

Aging

J	$\pm 5 \times 10^{-7}$ /year
I	$\pm 3 \times 10^{-7}$ /year
H	$\pm 2 \times 10^{-7}$ /year
G	$\pm 1 \times 10^{-7}$ /year

Phase Noise, 100 MHz, Sinewave (dBc/Hz)

Offset	Option	5 V		
		1	2	3
10 Hz		< -97	< -100	< -100
100 Hz		< -130	< -132	< -135
1 kHz		< -160	< -160	< -162
10 kHz		< -173	< -174	< -176
100 kHz		< -175	< -176	< -177

Additional Notes:

- 1) Contact factory for daily aging values. General rule: $x10^{-x}$ /year = $x10^{-(x+2)}$ /day.
- 2) Advise RoHs requirement at Order.
- 3) Contact factory for non-standard temperature ranges.