



# MV217

Voltage Controlled Crystal Oscillator  
80-170.0 MHz

Revised 1/1/15

Your dedicated source for crystal oscillators and filters.

## Features

- Small Package Size: 20x20x10 mm
- High Stability vs. Temperature: up to  $\pm 10 \times 10^{-6}$
- Low Phase Noise
- Sinewave
- +5V

## Specifications

Temperature Range	Temperature Stability Availability		Comments
	High	Higher	
0 to +55° C	$< \pm 10 \times 10^{-6}$	$< \pm 8 \times 10^{-6}$	
-10 to +60° C	$< \pm 10 \times 10^{-6}$	$< \pm 8 \times 10^{-6}$	

See ordering designations at the end of this data sheet.

Standard Frequencies	Long Term Stability (Aging) Availability		Comments
	High		
1 Year	$< \pm 2 \times 10^{-6}$		
10 Years	$< \pm 1 \times 10^{-6}$		

Contact factory for non-standard long term stability performance and see ordering designations at the end of this data sheet.

Specification	Short Term, Pulling & Pushing Stability		Comments
	High		
Short term stability per 1 sec.	-		Allan deviation
Stability vs. Load ( $\pm 10\%$ )	$< \pm 1 \times 10^{-10}$		
Stability vs. power supply ( $\pm 5\%$ )	$< \pm 5 \times 10^{-7}$		
Warm-up time to w/ in $< \pm 5 \times 10^{-8}$	-		@25° C

Contact factory for short term stability performance and warm-up time. See ordering designations at the end of this data sheet.

## Specifications-Continued

Option	Phase Noise, 5V, 100 MHz (dBc/Hz)				
		1	2	3	4
@ Offset Frequency	100 Hz	-95	-105	-110	-125
	1 kHz	-125	-130	-135	-140
	10 kHz	-140	-145	-150	-155
	100 kHz - 1 MHz	-155	-160	-160	-162
Harmonics		>-20 dBc	>-20 dBc	>-20 dBc	>-20 dBc

See ordering designations at the end of this data sheet.

## Output Parameters

Output	Sinewave
Level	>300 mV
Load	50 Ohm
Harmonics	-20 dBc

See ordering designations at the end of this data sheet.

## Power Supply &amp; Voltage Control Parameters

Specification	5V $\pm$ 5%
Steady state current @ 25° C	< 30 mA
Frequency Adjust range (10 MHz)	< $\pm$ 22x10 <sup>-6</sup>
Frequency Adjust Voltage (Uin)	0 to +4V

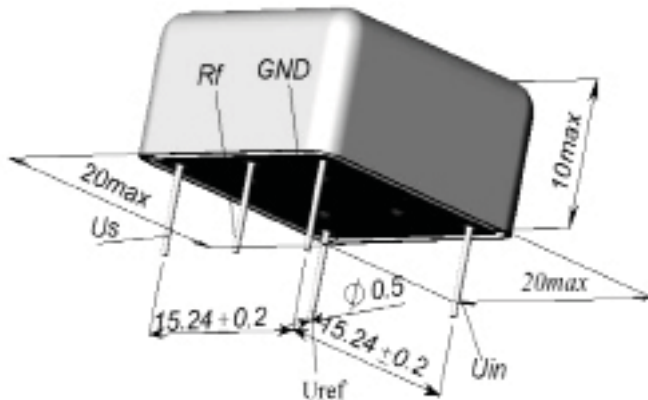
See ordering designations at the end of this data sheet.

## Environmental Parameters

Specification	Conditions
Vibration Frequency	5-300 Hz
Vibration Acceleration	5 g
Shock Acceleration	15 g
Shock Duration	6 mS
Humidity	98%
Storage Temperature	-60 to +90° C
RoHs	Option

Contact factory for extended environmental conditions.

## Outline Drawing



Pin	Value
Uref	Reference Voltage
Us	Power Supply
RF	RF Out
GND	Ground
Uin	Frequency Adjustment Voltage

## Ordering Guide

### MV217 - A 8000 - 2 - 100.0 MHz

Availability of certain stability vs. operating temperature range.

		$\pm 1 \times 10^{-6}$	$\pm 8 \times 10^{-6}$
		10000	80000
A	0 to +55° C	A	A
B	-10 to +60° C	A	A

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

Frequency Range

80-170 MHz

Availability of certain aging values for certain frequencies.

1 Year	$\pm 3 \times 10^{-8}$ /year
10 Years	$\pm 2 \times 10^{-8}$ /year

### Phase Noise, 5V, 100 MHz (dBc/Hz)

Option		1	2	3	4
@ Offset Frequency	100 Hz	-95	-105	-110	-125
1 kHz		-125	-130	-135	-140
10 kHz		-140	-145	-150	-155
100 kHz - 1 MHz		-155	-160	-160	-162
Harmonics		>-20 dBc	>-20 dBc	>-20 dBc	>-20 dBc

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.