LOW PHASE NOISE MINIATURE OCXO
WITH LOW G-SENSITIVITY MV389

Preliminary Information

Features:
- Small package: 25.8x25.8x12.7 mm
- Low phase noise: up to -173 dBc/Hz
- Long term stability: up to ±3x10⁻⁹/year
- G-sensitivity: up to <3x10⁻⁹/g
- Standard frequency: 10.0 MHz

ORDERING GUIDE: MV389 – C 20 F–12V– 10.0MHz–1-1E-9/G

<table>
<thead>
<tr>
<th>Availability of certain stability vs. operating temperature range</th>
<th>30</th>
<th>20</th>
<th>10</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0…+55°C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>-10…+60°C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>C</td>
<td>-20…+70°C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>D</td>
<td>-40…+70°C</td>
<td>A</td>
<td>A</td>
<td>C</td>
</tr>
<tr>
<td>EX*</td>
<td>-40…+85°C</td>
<td>A</td>
<td>A</td>
<td>C</td>
</tr>
</tbody>
</table>

* only for 5V power supply
A – available, C – consult factory, NA – not available
For other temperature ranges see designation at the end of Data Sheet.

Package drawing:

Vibrations:
- Frequency range: 10-500 Hz
- Acceleration: 5 g

Shock:
- Acceleration: 75 g
- Duration: ±1 ms

Humidity @ 25 ºC: 98%
Storage temperature range: -55…+70ºC

Additional notes:
- Please consult factory for daily aging values. Normally typical correspondence of daily to aging per year is as following: ±1x10⁻⁹/year – ±1x10⁻⁹/day; ±5x10⁻⁹/year – ±5x10⁻⁹/day; ±3x10⁻⁹/year – ±3x10⁻⁹/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), ºC:

| 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 |

Supply voltage
- 5 V
- 12 V

Phase noise, dBc/Hz, for 10MHz, SIN:
- 1 Hz: < -95
- 10 Hz: < -125
- 100 Hz: < -155
- 1000 Hz: < -160
- 10000 Hz: < -165

Short term stability (Allan deviation) per 1 sec, for 10 MHz:
- Option (for option 3 of phase noise) < 5x10⁻¹²
- Option < 2x10⁻¹²

G-sensitivity:
- Option < 1x10⁻⁹/g (1E-9/G)
- Option < 5x10⁻¹⁰/g (5E-10/G)
- Option < 4x10⁻¹⁰/g (4E-10/G)
- Option < 3x10⁻¹⁰/g (3E-10/G)

Frequency stability vs. load changes (%5) for 12 V power supply:
- < ±1.5x10⁻⁹

Frequency stability vs. power supply changes (%5):
- < ±1.5x10⁻⁹

Warm-up time within accuracy of <±2x10⁻⁸ @ 25ºC:
- < 5 min

Power supply (Us):
- 12V±5%
- 5V±5%

Steady state current consumption @ 25ºC:
- < 170 mA
- < 400 mA

Peak current consumption during warm-up:
- < 550 mA
- < 1300 mA

Frequency pulling range:
- > 4x10⁻¹⁰ > 3x10⁻¹⁰

Control voltage range (Uim):
- 0…5 V
- 0…4.1 V

Reference voltage (Uref):
- +5 V
- +4.1 V

Output:
- SIN

Level:
- > 300 mV
- > 600 mV (for 12V and phase noise option 1)

Load:
- 50 Ohm±5%

Harmonics:
- > 30 dBc

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