

MINIATURE LOW POWER PRECISION OCXO MV390

Preliminary information

Features:

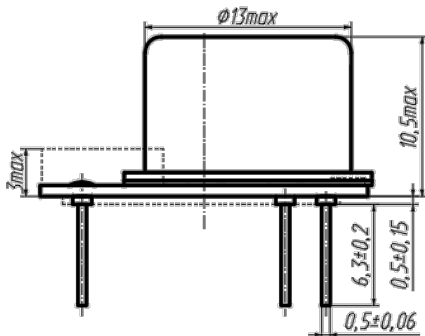
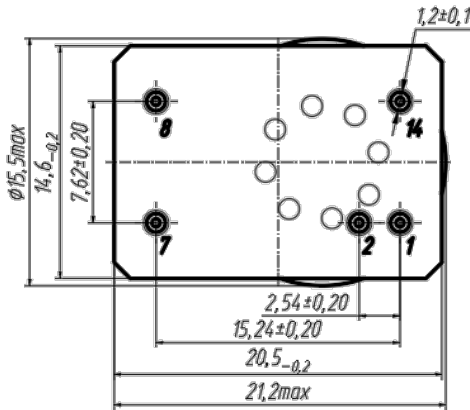
- High stability vs. temperature: up to $\pm 1 \times 10^{-8}$
- Frequency range: 10.0 – 50.0 MHz
- Small package size: 21.2x15.5x10.5 mm
- High long-term stability: up to $\pm 1 \times 10^{-8}$ /year
- Steady state power consumption <260 mW
- Power supply: 5 V or 3.3 V

| Availability of certain stability vs. operating temperature range (for 10 MHz, 5V) | Operating temperature range | $\pm 5 \times 10^{-8}$ | $\pm 3 \times 10^{-8}$ | $\pm 2 \times 10^{-8}$ | $\pm 1 \times 10^{-8}$ |
|--|-----------------------------|------------------------|------------------------|------------------------|------------------------|
| | | 50 | 30 | 20 | 10 |
| A | 0...+50°C | A | A | A | A |
| B | -10...+60°C | A | A | A | A |
| C | -20...+70°C | A | A | A | C |
| EX | -40...+85°C | A | C | C | NA |

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

| Availability of certain aging values for certain frequencies | Standard frequencies | 10.0 MHz |
|--|------------------------------|----------|
| | | E |
| D | $\pm 2 \times 10^{-8}$ /year | A |
| C | $\pm 1 \times 10^{-8}$ /year | C |

A – available, C – consult factory



| Pin | Designation |
|-----|-------------|
| 1 | Uin |
| 2 | Uref |
| 7 | GND |
| 8 | RF |
| 14 | Us |

| | | |
|--|---------------------------|-----------------|
| Short term stability (Allan deviation) per 1 sec | $< 5 \times 10^{-12}$ | |
| Frequency stability vs. power supply changes | $< \pm 5 \times 10^{-10}$ | |
| Power supply | 5 V \pm 5% | 3.3 V \pm 5%* |
| Warm-up time within accuracy of $< \pm 1 \times 10^{-7}$ @ 25 \pm 5 °C | <45 sec | <70 sec |
| Warm-up time within accuracy of $< \pm 1 \times 10^{-8}$ @ 25 \pm 5 °C | <90 sec | <140 sec |
| Steady state power consumption @ 25 \pm 5 °C | <260 mW | <300 mW |
| Power consumption during start-up | <900 mW | |
| Frequency pulling range** | $> \pm 4 \times 10^{-7}$ | |
| with external voltage range | 0...4.5 V | 0...3 V |
| Reference voltage | +4.5 V | +3.0 V |
| Output | HCMOS | |
| Level | <0> | <0.4 V |
| | <1> | >4 V |
| Load | 10 kOhm/15pF | |

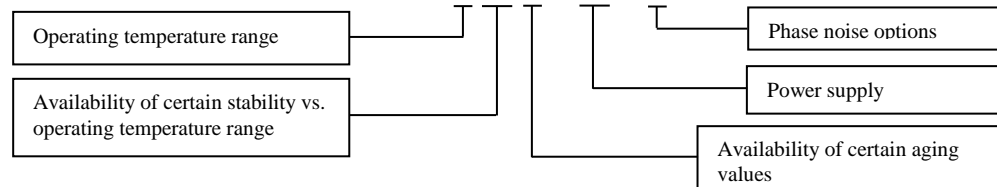
* consult factory

** sufficient to compensate aging during life time

| | | |
|---------------------------|---------------------------|------------------|
| Vibrations: | Frequency range | 10-2000 Hz |
| | Acceleration | 30 g |
| Mechanical shock: | Acceleration | 500 g |
| | Duration | 1.5 \pm 0.5 ms |
| G-sensitivity | $< 1.2 \times 10^{-9}$ /G | |
| Storage temperature range | -55...+85°C | |

| Phase noise, dBc/Hz, for 10.0 MHz, 5 V | | |
|--|------|------|
| Option | 1 | 2 |
| 1 Hz | -90 | -100 |
| 10 Hz | -120 | -135 |
| 100 Hz | -150 | -158 |
| 1000 Hz | -160 | -169 |
| 10000 Hz | -166 | -170 |
| 100000 Hz | -170 | -173 |

ORDERING GUIDE: MV390 – C 20 D – 5V – 2 – 10.0 MHz



Additional notes:

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 |