

MINIATURE PRECISION OCXO MV205

Features:

- Package height: from 12.7 mm, down to 10 mm
- High stability vs. temperature: up to $\pm 1 \times 10^{-9}$
- Long term stability: up to $\pm 2 \times 10^{-8}$ /year
- Fast warm-up time: up to 1 min.
- Available as RoHS
- Frequency range: 16.384 ... 50.0 MHz

| | | | |
|---------------------|---------------|---------------------|-------|
| Power supply | Output | Package type | |
| 12 V | SIN | 36x27x12.7 mm | B12.7 |
| 5 V | CMOS | 36x27x10.0 mm | B10 |
| 3.3 V | | | |

ORDERING GUIDE: MV205-C 3 G-12V-SIN-B12.7-LN-20.0MHz

| Availability of certain stability vs. operating temperature range | | $\pm 5 \times 10^{-9}$ | $\pm 3 \times 10^{-9}$ | $\pm 2 \times 10^{-9}$ | $\pm 1 \times 10^{-9}$ | $\pm 5 \times 10^{-10}$ |
|---|-------------|------------------------|------------------------|------------------------|------------------------|-------------------------|
| | | 5 | 3 | 2 | 1 | 05 |
| A | 0...+55°C | A | A | A | A | A |
| B | -10...+60°C | A | A | A | A | A |
| C | -20...+70°C | A | A | A | A | C |
| D | -40...+70°C | A | A | A | C | C |
| EX | -40...+85°C | A | A | A | C | - |

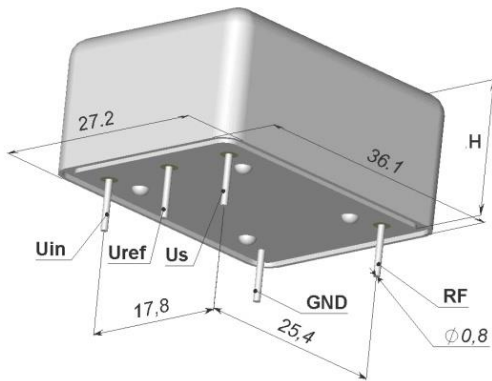
| Aging | Standard frequencies, MHz | | | |
|--------------------------------|---------------------------|-----------------|--------|---|
| | x2 | | x3, x4 | |
| | 20 | 16,384-30 incl. | >30 | |
| H $\pm 2 \times 10^{-7}$ /year | A | A | A | A |
| G $\pm 1 \times 10^{-7}$ /year | A | A | A | A |
| F $\pm 5 \times 10^{-8}$ /year | A | A | C | A |
| E $\pm 3 \times 10^{-8}$ /year | A | C | C | C |
| D $\pm 2 \times 10^{-8}$ /year | C | C | - | C |

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

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For other temperature ranges see designation at the end of Data Sheet.

Package drawing:



For “H” definition, please see package type

| Phase noise*, dBc/Hz, (for frequencies, MHz) | (x2) | | | (x3, x4) | |
|--|----------------------|-----------------|----------------------|----------------------|----------------------|
| | 20 | 16,384-30 incl. | >30-50 incl. | ≤50 | |
| | - | LN | - | 1 | 2 |
| 1 Hz | <-90 | <-100 | <-90 | <-85 | - |
| 10 Hz | <-120 | <-130 | <-120 | <-118 | <-115 |
| 100 Hz | <-140 | <-146 | <-140 | <-140 | <-135 |
| 1000 Hz | <-150 | <-150 | <-150 | <-145 | <-142 |
| 10000 Hz | <-150 | <-150 | <-150 | <-150 | <-145 |
| Short term stability (Allan deviation) per 1 sec | <5x10 ⁻¹² | | <1x10 ⁻¹¹ | <2x10 ⁻¹¹ | <1x10 ⁻¹¹ |

*for 3.3V – please consult factory

| | |
|---|-----------------------|
| Frequency stability vs. load changes (±5%) | <±5x10 ⁻¹⁰ |
| Frequency stability vs. power supply changes (±5%) | <±5x10 ⁻¹⁰ |
| Warm-up time within accuracy of <±2x10 ⁻⁸ @ 25°C | <3 min |

| | | | |
|---|------------------------|----------|----------|
| Power supply (Us) | 12V±5% | 5V±5% | 3.3V±5% |
| Steady state current consumption @ +25°C | <150 mA | <400 mA | <650 mA |
| Peak current consumption during warm-up (for “D” temp. range) | <400 mA | <1000 mA | <1500 mA |
| Frequency pulling range | >±5.0x10 ⁻⁷ | | |
| Control voltage range (Uin) | 0...5V | 0...4.5V | 0...3V |
| Reference voltage (Uref) | +5 V | +4.5 V | +3 V |

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

| | |
|--------------|--------|
| Shock: | |
| Acceleration | 75 g |
| Duration | 3±1 ms |

| | |
|---------------------------|--------------|
| Humidity @ 25 °C | 98% |
| Storage temperature range | -55...+85 °C |

| Output | SIN | CMOS | | | |
|----------------------------|-----------------------|-------------|-------|-----|-----|
| | Level | >300 mV RMS | <<0>> | 0.3 | |
| | | <<1>> | 4.2 | 3.8 | 2.4 |
| Load | 50 Ohm±5% | 10kOhm/30pF | | | |
| Harmonics & *sub harmonics | <-50 dBc <-55 dBc* | <-55 dBc* | | | |
| Jitter p-p, for 20 MHz | - | <100 ps | | | |

Additional notes:

- Please consult factory for daily aging values. Normally typical correspondence of daily to aging per year is as following: $\pm 1 \times 10^{-7}$ /year – $\pm 1 \times 10^{-9}$ /day; $\pm 5 \times 10^{-8}$ /year – $\pm 5 \times 10^{-10}$ /day; $\pm 3 \times 10^{-8}$ /year – $\pm 3 \times 10^{-10}$ /day;
- Please mention RoHS requirement (if any) while requesting for quote or while placing PO;
- 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 |

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