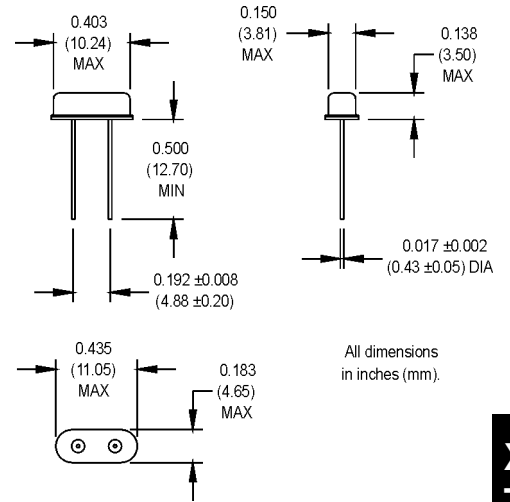


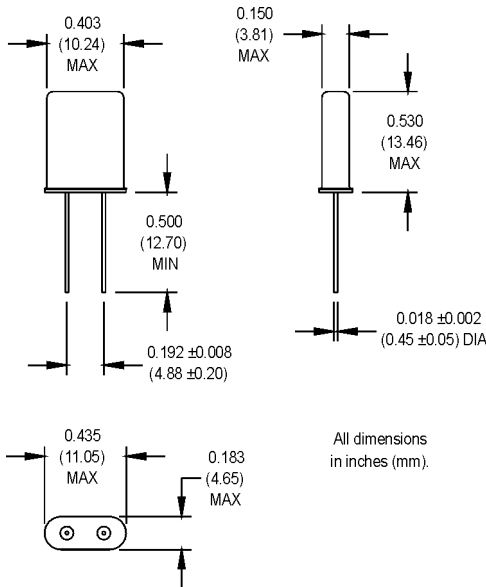
ATS-49 and MP-1 Crystals



***ATS-49 00.0000 MHz** (customer specified)



MP-1 (HC-49/U) 00.0000 MHz (customer specified)



NOTES:

Series resonant designated by "SR" prefix (i.e., SRATS-49 or SRMP-1).

ATS-49

Because this product is based on AT-strip technology, not all frequencies in the range stated are available. Contact the factory for availability of specific frequencies.

BT cut fundamentals from 24.000 to 40.000 MHz have a stability of ±100 ppm.

| Equivalent Series Resistance (ESR), Max. | ATS-49 |
|--|--------|
| Fundamental (AT-cut) | |
| 3.579 to 3.999 MHz | 200 Ω |
| 4.000 to 4.999 MHz | 150 Ω |
| 5.000 to 5.999 MHz | 120 Ω |
| 6.000 to 9.999 MHz | 100 Ω |
| 10.000 to 13.999 MHz | 80 Ω |
| 14.000 to 40.000 MHz | 50 Ω |
| Fundamental (BT-cut) | |
| 24.000 to 50.000 MHz | 100 Ω |
| Third Overtones (AT-cut) | |
| 25.000 to 39.999 MHz | 100 Ω |
| 40.000 to 72.000 MHz | 80 Ω |

| Equivalent Series Resistance (ESR), Max. | MP-1 |
|--|-------|
| Fundamental (AT-cut) | |
| 1.8432 to 1.999 MHz | 700 Ω |
| 2.000 to 2.399 MHz | 600 Ω |
| 2.400 to 3.299 MHz | 400 Ω |
| 3.300 to 3.569 MHz | 140 Ω |
| 3.570 to 3.999 MHz | 100 Ω |
| 4.000 to 5.999 MHz | 75 Ω |
| 6.000 to 7.999 MHz | 50 Ω |
| 8.000 to 10.999 MHz | 40 Ω |
| 11.000 to 14.999 MHz | 30 Ω |
| 15.000 to 19.999 MHz | 25 Ω |
| 20.000 to 34.000 MHz | 25 Ω |
| Third Overtones (AT-cut) | |
| 20.000 to 49.999 MHz | 40 Ω |
| 50.000 to 75.000 MHz | 50 Ω |
| Fifth Overtones (AT-cut) | |
| 50.000 to 125.000 MHz | 90 Ω |
| Seventh Overtones (AT-cut) | |
| 125.000 to 200.000 MHz | 150 Ω |

| Electrical Specifications | PARAMETER | Symbol | Min. | Typ. | Max. | Units | Condition/Notes |
|---------------------------|-----------------------|----------------|----------------|------|------|--------|-----------------|
| | Frequency Range | F | 1.8432 | | 200 | MHz | MP-1 |
| | | | 3.579545 | | 72 | MHz | ATS-49 |
| | Frequency Tolerance | F/F | | | ±30 | ppm | |
| | Frequency Stability | ΔF/F | | | ±50 | ppm | |
| | Operating Temperature | T _A | -10 | | +70 | °C | |
| | Storage Temperature | T _s | | | | °C | |
| | Aging | | | | | | |
| | 1st Year | | | | | | |
| | Thereafter (per year) | | | | | | |
| | Load Capacitance | C _L | | 18 | | pF | |
| | Shunt Capacitance | C ₀ | | | 7 | pF | |
| | ESR | | See ESR Tables | | | | |
| Drive Level | D _L | | | 1 | mW | MP-1 | |
| | | | | 500 | μW | ATS-49 | |
| Insulation Resistance | I _R | 500 | | | MΩ | | |

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MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice. No liability is assumed as a result of their use or application.

Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.