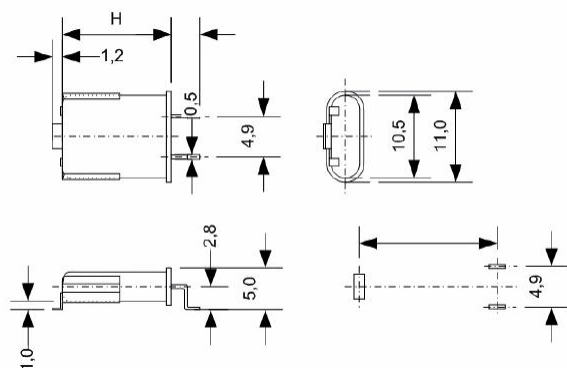


Table 1

| ENCLOSURE | H [mm] | CODE | |
|-------------|--------|------|----------------------|
| HC-49/U-SMD | 13.2 | 31 | |
| | 10.6 | 32 | starting with 4 MHz |
| | 9.2 | 33 | starting with 10 MHz |



Metal Housing: Resistance Weld
Inert gas N₂/He
Laser engraving

Table 2

| 1.8 ... 250 MHz | | Unit | Condition |
|---|---|---------------------------------|---|
| Frequency range | 1.8 - 250 | MHz | |
| Crystal cut | AT | | |
| Enclosure | HC-49/U-SMD | | |
| Mode | 1. 1.8 - 40 3. 15 - 100 5. 45 - 160 7. 100 - 210 9. 140 - 250 | MHz MHz MHz MHz MHz | Fundamental 3 rd overtone 5 th overtone 7 th overtone 9 th overtone |
| Load capacitance | 10 – 60pF or Series | pF | |
| Shunt capacitance | 1.8 - 4.0 MHz: < 3.0 pF 4.0 - 10 MHz: < 5.0 pF 10 - 250 MHz: < 7.0 pF | pF | |
| Motional capacitance | | | |
| Resistance R _R | | | see table 5 |
| Frequency adjustment | | | see table 3 |
| Nominal temperature and temp. stability | | | see table 4 |
| Aging 1 st year | < 2.0 – 3.0 | ppm | |
| Shock | 100 g / 6 ms | | |
| Vibration | 10 g _{SS} / 1.5 mm _{SS} 50 – 500 Hz | | |
| Δf / f | < 5.0 | ppm | |
| ΔR / R | < 20 % | | |

Table 3

| FREQUENCY ADJUSTMENT AT +25°C ± 2°C | FREQUENCY [MHz] | | | | | |
|--|-----------------|------------|------------|-------------|-------------|------|
| | 1.8 ... 40 | 15 ... 100 | 45 ... 160 | 100 ... 210 | 140 ... 250 | Code |
| Mode | 1 | 3 | 5 | 7 | 9 | |
| Frequency adjustment / ppm | ± 3 | ± 3 | ± 3 | | | C1 |
| | ± 5 | ± 5 | ± 5 | ± 5 | ± 5 | E1 |
| | ± 10 | ± 10 | ± 10 | ± 10 | ± 10 | J1 |
| | ± 20 | ± 20 | ± 20 | ± 20 | ± 20 | B2 |
| | ± 50 | ± 50 | ± 50 | ± 50 | ± 50 | H2 |

Table 4

| FREQUENCY STABILITY OVER TEMPERATURE RELATED TO + 25°C | | FREQUENCY DEVIATION [ppm] | | | | | | | |
|--|------|---------------------------|-----|-----|------|------|------|------|------|
| 1.8 ... 4.0 MHz: + 4.0 ... 6.0 MHz: x 6.0 ... 250 MHz: o | | ± 3 | ± 5 | ± 7 | ± 10 | ± 20 | ± 25 | ± 30 | ± 50 |
| Temperature range | Code | 03 | 05 | 07 | 10 | 12 | 13 | 14 | 20 |
| 0 ... + 50°C | B | o | xo | +xo | +xo | +xo | +xo | +xo | +xo |
| - 10 ... + 60°C | H | o | xo | xo | +xo | +xo | +xo | +xo | +xo |
| - 20 ... + 70°C | M | | o | xo | xo | +xo | +xo | +xo | +xo |
| - 30 ... + 80°C | R | | | o | xo | xo | xo | +xo | +xo |
| - 40 ... + 90°C | U | | | | o | xo | xo | +xo | +xo |
| - 55 ... + 105 °C | W | | | | | | o | xo | +xo |
| - 55 ... + 125°C | X | | | | | | | o | xo |

Table 5

| MAX. RESISTANCE R _R | MODE | FREQUENCY [MHz] | R _{RMAX} [Ω] |
|--------------------------------|------|-----------------|-----------------------|
| | 1 | 1.8 - 2.0 | 500 |
| | | 2.0 - 3.0 | 300 |
| | | 3.0 - 5.0 | 120 |
| | | 5.0 - 12 | 40 |
| | | 12 - 40 | 15 |
| | 3 | 10 - 20 | 30 |
| | | 20 - 100 | 22 |
| | 5 | 45 - 55 | 70 |
| | | 55 - 160 | 50 |
| | 7 | 100 - 210 | 100 |
| | 9 | 140 - 250 | 180 |

Table 6

| Odering Code ⁽¹⁾ | FREQUENCY [MHz] | ENCLOSURE CODE: TABLE 1 | MODE: 1: FUND. 3,5,7,9: OT TABLE 2 | LOAD CAP.: 00: SERIES 32: 32 pF TABLE 2 | ADJ. Tolerance CODE: TABLE 3 | TEMP: RANGE CODE: TABLE 4 | FREQ. STAB. OVER TEMP. CODE: TABLE 4 | SHUNT CAPACITANCE 25: 2.5 pF TABLE 2 |
|-----------------------------|-----------------|-------------------------|------------------------------------|---|------------------------------|---------------------------|--------------------------------------|--------------------------------------|
| | 12.8 | 31 | 1 | 32 | J1 | M | 10 | 25 |

⁽¹⁾ Other specifications on request

