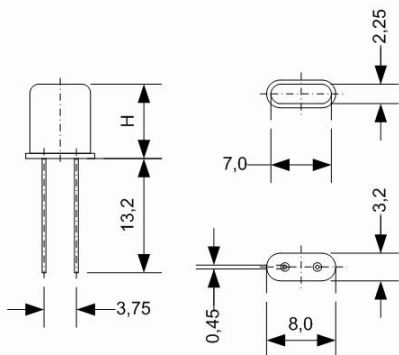


Table 1

| ENCLOSURE | H [mm] | CODE |                      |
|-----------|--------|------|----------------------|
| HC-52/U   | 8.6    | 01   |                      |
|           | 7.8    | 02   | starting with 10 MHz |
|           | 5.9    | 03   | starting with 15 MHz |



Metal Housing: Resistance Weld  
Inert gas N<sub>2</sub>/He  
Laser engraving

Table 2

| 5.0 ... 250 MHz                         |   | Unit | Condition   |
|---|---|------|---|
| Frequency range                         | 5 - 250   | MHz  |   |
| Crystal cut                             | AT  |      |   |
| Enclosure                               | HC-52/U   |      |   |
| Mode                                    | 1. 5 - 40<br>3. 20 - 100<br>5. 50 - 160<br>7. 100 - 210<br>9. 140 - 250 | MHz  | Fundamental<br>3 <sup>rd</sup> overtone<br>5 <sup>th</sup> overtone<br>7 <sup>th</sup> overtone<br>9 <sup>th</sup> overtone |
| Load capacitance                        | 10 – 60pF or Series   | pF   |   |
| Shunt capacitance                       | 5 - 10 MHz: < 3.0 pF<br>10 – 15 MHz: < 5.0 pF<br>15 – 250 MHz: < 7.0 pF | pF   |   |
| Motional capacitance                    |   |      |   |
| Resistance R <sub>R</sub>               |   |      | see table 5   |
| Frequency adjustment                    |   |      | see table 3   |
| Nominal temperature and temp. stability |   |      | see table 4   |
| Aging 1 <sup>st</sup> year              | < 2.0 – 3.0   | ppm  |   |
| Shock                                   | 100 g / 6 ms  |      |   |
| Vibration                               | 10 g <sub>SS</sub> / 1.5 mm <sub>SS</sub><br>50 – 500 Hz                |      |   |
| Δf / f                                  | < 5.0   | ppm  |   |
| ΔR / R                                  | < 20 %  |      |   |

Table 3

| FREQUENCY ADJUSTMENT AT<br>+25°C ± 2°C | FREQUENCY [MHz] |            |            |             |             |      |
|--|-----------------|------------|------------|-------------|-------------|------|
|  | 5.0 ... 40      | 20 ... 100 | 50 ... 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<br>TEMPERATURE RELATED TO + 25°C |      | FREQUENCY DEVIATION [ppm] |     |     |      |      |      |      |      |
|---|------|---------------------------|-----|-----|------|------|------|------|------|
| 5.0 ... 10 MHz: x<br>10 ... 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 <sub>R</sub> | MODE | FREQUENCY [MHz] | R <sub>RMAX</sub> [Ω] |
|--------------------------------|------|-----------------|-----------------------|
|                                | 1    | 5 - 7.5         | 80                    |
|                                |      | 7.5 - 9         | 60                    |
|                                |      | 9 - 12          | 30                    |
|                                |      | 12 - 16         | 16                    |
|                                |      | 16 - 35         | 12                    |
|                                | 3    | 20 - 30         | 42                    |
|                                |      | 30 - 50         | 30                    |
|                                |      | 50 - 100        | 22                    |
|                                | 5    | 100 - 160       | 70                    |
|                                | 7    | 100 - 210       | 160                   |
|                                | 9    | 140 - 250       | 200                   |

Table 6

| Odering Code <sup>(1)</sup> | 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            | 01                      | 1                                  | 32                                      | J1                           | M                         | 10                                   | 25                                   |

<sup>(1)</sup> Other specifications on request