

**Dip type**  
**10.7 \* 4.5 \* 13.6 mm**



### Applications

- Tight tolerance and stability. Ideal for communication equipment
- Available up to 200 MHz using a 5th overtone crystal mode
- RoHS compliant versions are also available.

### General Specifications

| Parameters                | Electrical Spec.                                                                      |
|---------------------------|---------------------------------------------------------------------------------------|
| Item / Type               | <b>H49</b> ( 10.7 * 4.5 * 13.6 mm )                                                   |
| Frequency Range           | 1.0 ~ 1.3MHz , 1.8 ~ 200.0MHz ( see Table 1 )                                         |
| Load Capacitance          | Series or Parallel ( 8 to 32 pF ) resonance                                           |
| Drive Level               | 100μ W typical ( 500μ W max. )                                                        |
| Frequency Tolerance       | AT-cut: ± 5 ppm , ± 10 ppm , ± 20 ppm or ± 30 ppm at 25°C<br>SL-cut: ± 50 ppm at 25°C |
| Frequency Stability       | See Table 2                                                                           |
| Aging                     | ΔF / F : ±2 ppm / year ( max. )                                                       |
| Storage Temperature Range | - 50°C to 105°C                                                                       |

Table 1

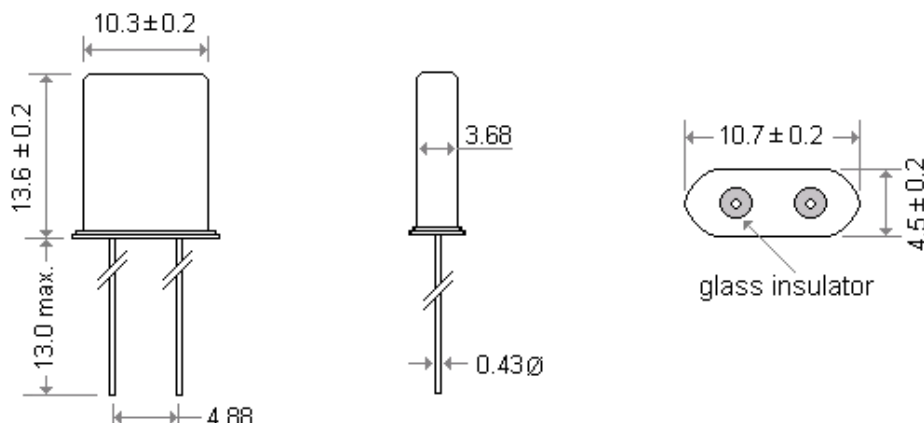
| H49 ; 49T ESR ( Equivalent Series Resistance ) |           |                           |        |               |           |                           |        |
|------------------------------------------------|-----------|---------------------------|--------|---------------|-----------|---------------------------|--------|
| Freq. ( MHz )                                  | Hold Type | crystal cut and osc. Mode | E.S.R. | Freq. ( MHz ) | Hold Type | crystal cut and osc. Mode | E.S.R. |
| 1.0 ~ 1.3                                      | H49       | SL , Fund.                | 5K Ω   | 7.1 ~ 10.0    | H49 , 49T | AT , Fund.                | 35 Ω   |
| 1.8 ~ 3.0                                      | H49       | AT , Fund.                | 400 Ω  | 10.1 ~ 30.0   | H49 , 49T | AT , Fund.                | 25 Ω   |
| 3.1 ~ 3.5                                      | H49       | AT , Fund.                | 150 Ω  | 30.1 ~ 45.0   | H49 , 49T | AT , Fund.                | 20 Ω   |
| 3.6 ~ 5.0                                      | H49 , 49T | AT , Fund.                | 100 Ω  | 24.0 ~ 100.0  | H49 , 49T | AT , 3rd                  | 60 Ω   |
| 5.1 ~ 7.0                                      | H49 , 49T | AT , Fund.                | 50 Ω   | 80.0 ~ 160.0  | H49 , 49T | AT , 5th                  | 70 Ω   |

Table 2

| Frequency stability vs Operating temperature range |                  |     |      |      |      |      |      |      |                 |
|----------------------------------------------------|------------------|-----|------|------|------|------|------|------|-----------------|
| Stability code                                     | Temp. (°C) \ ppm | ± 5 | ± 10 | ± 15 | ± 20 | ± 25 | ± 30 | ± 50 | ± 100 (SL-cut ) |
| X                                                  | -10 to 60°C      | ○   | ○    | ○    | ○    | ○    | ○    | ○    | ○               |
| Y                                                  | -20 to 70°C      | ▲   | ○    | ○    | ○    | ○    | ○    | ○    | ○               |
| I                                                  | -40 to 85°C      |     | ○    | ○    | ○    | ○    | ○    | ○    | ○               |

○ : available ; ▲ : contact Mercury

### Outline Dimensions ( Unit : mm )



Mercury [www.mercury-crystal.com](http://www.mercury-crystal.com)