

ISSUE 16; January 2025

Description

- Industry standard leaded package
- Resistance welded, hermetically sealed in an inert atmosphere, glass to metal seals on leads
- Variants available include but are not limited to -
- 3L = a centre mounted third leg grounds the can
- Low profile versions available please contact our sales offices for details
- Please see our HC49/4HSMX for a SMD alternative

Frequency Parameters

- Frequency 3.5MHz to 70.0MHz
- Frequency Tolerance $\pm 10.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Tolerance Condition @ 25°C
- Frequency Stability $\pm 15.00\text{ppm}$ to $\pm 500.00\text{ppm}$
- Ageing $\pm 5\text{ppm}$ typical per year at 25°C

Electrical Parameters

- Load Capacitance (CL) 10.0pF to 75.0pF
- Shunt Capacitance (C0) 7pF max
- Drive Level 500µW max

Operating Temperature Ranges

- 0 to 50°C
- 10 to 60°C
- 20 to 70°C
- 30 to 80°C
- 40 to 85°C
- 55 to 105°C

Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202 Method 213, Condition C, Half sine shock pulse peak acceleration of 100g, pulse duration 6ms.
- Vibration: MIL-STD-202 Method 204, 5g for 20 minutes, 12 cycles in each of the 3 orientations, 10~2000Hz.

Manufacturing Details

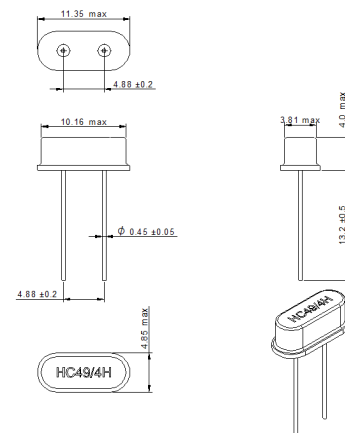
- RoHS Terminations Sn, Ag & Cu
- RoHS Reflow 260°C max over 10 seconds

Ordering Information

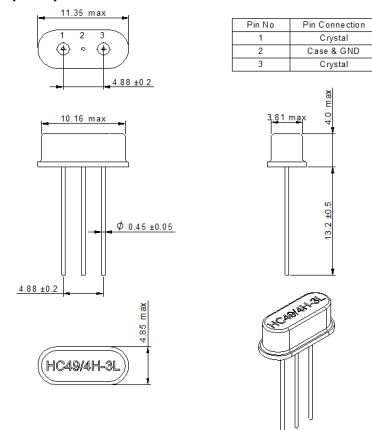
- Frequency*
- Model*
- Frequency Tolerance (@ 25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance*
- Overtone*
- (*minimum required)
- Example
- 10.0MHz HC49/4H
- 50/50/-40 to 85C/10 FUND



Outline (mm)



Outline (mm) -3L = 3 Lead



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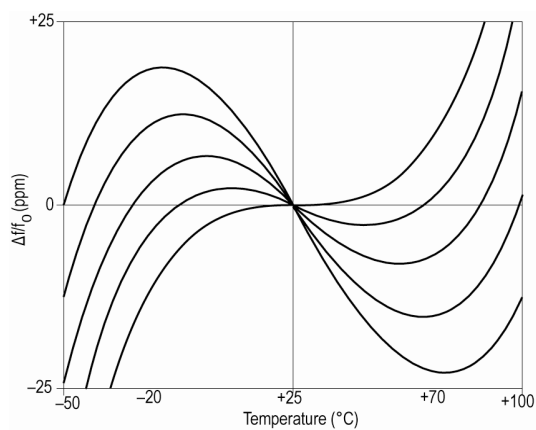
Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Bulk Pack
Standard Pack Quantity: 100
- Tape & reel in accordance with EIA-481
Standard Pack Quantity: 1,000

Typical Frequency vs Temperature Curves



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Electrical Specification - maximum limiting values

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Over Tone Order | ESR |
|---------------|---------------|-------------------|-----------------|-----------------|-----|
| | | °C | ppm | | Ω |
| 3.5MHz | 3.999999MHz | 0 to 50 | ±15 | Fundamental | 200 |
| | | -10 to 60 | ±20 | | 200 |
| | | -20 to 70 | ±20 | | 200 |
| | | -30 to 80 | ±25 | | 200 |
| | | -40 to 85 | ±30 | | 200 |
| | | -55 to 105 | ±100 | | 200 |
| 4.0MHz | 5.499999MHz | 0 to 50 | ±15 | Fundamental | 130 |
| | | -10 to 60 | ±20 | | 130 |
| | | -20 to 70 | ±20 | | 130 |
| | | -30 to 80 | ±25 | | 130 |
| | | -40 to 85 | ±30 | | 130 |
| | | -55 to 105 | ±100 | | 130 |
| 5.5MHz | 7.999999MHz | 0 to 50 | ±15 | Fundamental | 60 |
| | | -10 to 60 | ±20 | | 60 |
| | | -20 to 70 | ±20 | | 60 |
| | | -30 to 80 | ±25 | | 60 |
| | | -40 to 85 | ±30 | | 60 |
| | | -55 to 105 | ±100 | | 60 |
| 8.0MHz | 40.0MHz | 0 to 50 | ±15 | Fundamental | 40 |
| | | -10 to 60 | ±20 | | 40 |
| | | -20 to 70 | ±20 | | 40 |
| | | -30 to 80 | ±25 | | 40 |
| | | -40 to 85 | ±30 | | 40 |
| | | -55 to 105 | ±100 | | 40 |
| 27.0MHz | 70.0MHz | 0 to 50 | ±15 | 3rd Overtone | 100 |
| | | -10 to 60 | ±20 | | 100 |
| | | -20 to 70 | ±20 | | 100 |
| | | -30 to 80 | ±25 | | 100 |
| | | -40 to 85 | ±30 | | 100 |
| | | -55 to 105 | ±100 | | 100 |

*Stability Maximum values ±500ppm

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