

# Resistance Weld SMD Crystal



Model: HC49SDF

RoHS Compliant / Pb Free

Rev. 3/30/2015

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## FEATURES

- Stock Standard (see page 2)
- Fundamental to 40 MHz
- Tape and Reel (1,000 pcs. STD)
- Tolerances to 10 PPM
- Stabilities to 5 PPM
- Temperatures to -55°C ~ +125°C
- 3.2mm Height Max (HC49SSDF)

## OPTIONS

### • PART NUMBER

| Part Number           | Model Number | Frequency Range (MHz) |
|-----------------------|--------------|-----------------------|
| 278LF-Frequency-xxxxx | HC49SDF      | 3.200 ~ 80.000        |

### • STANDARD SPECIFICATIONS<sup>1</sup>

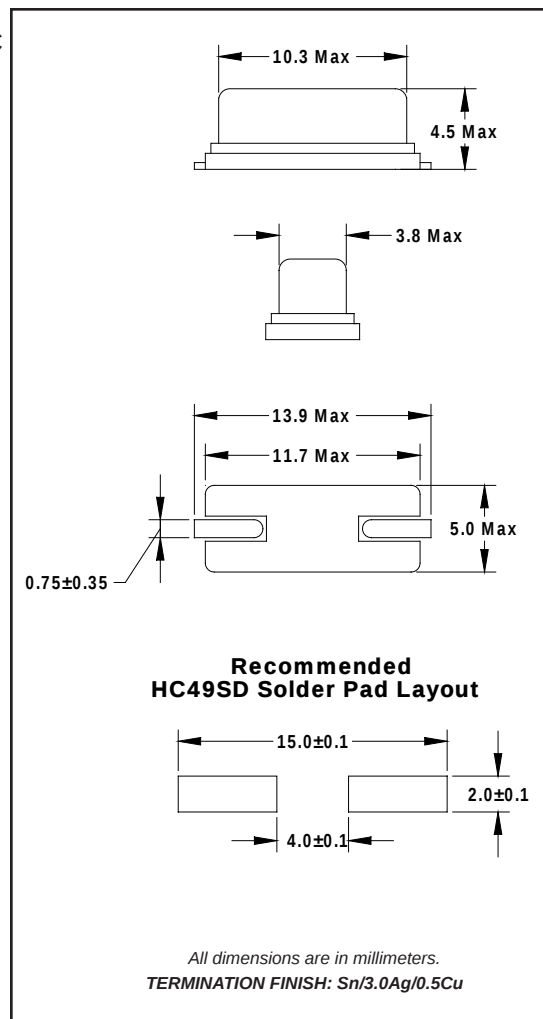
| PARAMETERS                       | MAX (unless otherwise noted)        |
|----------------------------------|-------------------------------------|
| Frequency Range                  | 3.200 ~ 80.000 MHz                  |
| Frequency Tolerance @ 25°C       | ±50 PPM <sup>1,3</sup>              |
| Frequency Stability, ref @ 25°C  | ±50 PPM <sup>1</sup>                |
| Temperature Range                |                                     |
| Operating (TOPR)                 | -20°C ~ +70°C <sup>2</sup>          |
| Storage (TSTG)                   | -40°C ~ +125°C                      |
| Shunt Capacitance (Co)           | 7pF                                 |
| Load Capacitance (CL)            | 10 pF ~ Series (Customer Specified) |
| Drive Level                      | 0.5 mW (0.1 mW Typical)             |
| Aging per year                   | ±3 PPM                              |
| Maximum Soldering Temp / Time    | 260°C / 10 Seconds                  |
| Moisture Sensitivity Level (MSL) | 1                                   |
| Termination Finish:              | Sn/Ag/Cu                            |

<sup>1</sup> Other tolerances, stabilities available. Consult Fox Customer Service for specific requirements.

<sup>2</sup> Operating temperature ranges to -55°C ~ +125°C available.

<sup>3</sup> Crystal has a ±30ppm tolerance specification for all standard part numbers. These part numbers are listed on page 2 of this datasheet.

Note: Dimensional drawing is for reference to critical specifications defined by size measurements. Certain non-critical visual attributes, such as side castellations, etc. may vary. All specifications subject to change without notice.



| Frequency Range (MHz) | Operating Mode | Max ESR Ω |
|-----------------------|----------------|-----------|
| 3.200 ~ 3.500         | Fundamental    | 300       |
| 3.500+ ~ 4.000        | Fundamental    | 200       |
| 4.000+ ~ 5.000        | Fundamental    | 150       |
| 5.000+ ~ 6.000        | Fundamental    | 120       |
| 6.000+ ~ 7.000        | Fundamental    | 100       |
| 7.000+ ~ 9.000        | Fundamental    | 80        |
| 9.000+ ~ 13.000       | Fundamental    | 60        |
| 13.000+ ~ 20.000      | Fundamental    | 40        |
| 20.000+ ~ 40.000      | Fundamental    | 30        |
| 27.000 ~ 70.000       | 3rd OT         | 100       |
| 70.000+ ~ 80.000      | 3rd OT         | 80        |

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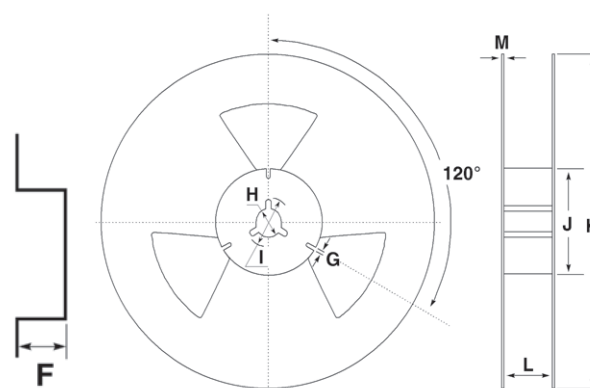
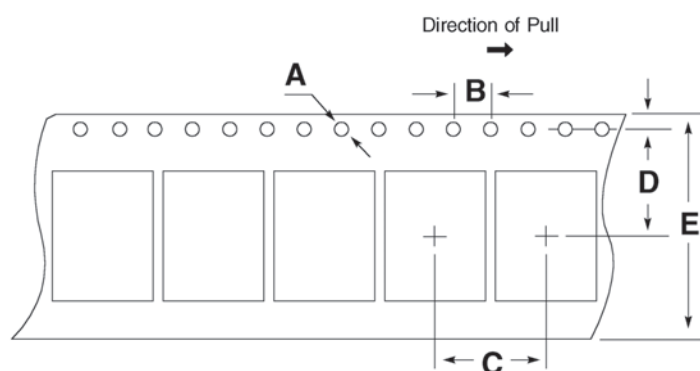
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| • TAPE SPECIFICATIONS (millimeters) |      |     |      |      |      |     |              | • REEL SPECIFICATIONS (millimeters) |     |     |     |     |      |      |     |
|-------------------------------------|------|-----|------|------|------|-----|--------------|-------------------------------------|-----|-----|-----|-----|------|------|-----|
| MODEL                               | A    | B   | C    | D    | E    | F   | STD Reel QTY | MODEL                               | G   | H   | I   | J   | K    | L    | M   |
| HC49SDF                             | Ø1.5 | 4.0 | 12.0 | 11.5 | 24.0 | 4.8 | 1,000        | HC49SDF                             | 2.0 | Ø13 | Ø21 | Ø80 | Ø330 | 25.5 | 2.0 |





# Resistance Weld SMD Crystal

Model: HC49SDLF

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All specifications subject to change without notice.

| • HC49SDLF Standard Crystals |           |            |            |              |      |
|------------------------------|-----------|------------|------------|--------------|------|
| Part Number                  | Frequency | Tolerance  | Stability  | Temp Range   | CL   |
| FOXSDLF/036S                 | 3.579545  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 18pF |
| FOXSDLF/0368-20              | 3.686400  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/040                  | 4.000000  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/041                  | 4.194304  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/049-20               | 4.915200  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/060-20               | 6.000000  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/073-20               | 7.372800  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/080-20               | 8.000000  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/081-20               | 8.192000  | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/100-20               | 10.000000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/115-20               | 11.059200 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/120-20               | 12.000000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/128-20               | 12.288000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/143-20               | 14.318180 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/147-20               | 14.745600 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/160-20               | 16.000000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/200-20               | 20.000000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/221-20               | 22.118400 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/240F-20              | 24.000000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/245F-20              | 24.576000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/250F-20              | 25.000000 | +/- 30 ppm | +/- 50 ppm | -20 to +70 C | 20pF |
| FOXSDLF/0368R-20             | 3.686400  | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/040R                 | 4.000000  | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/060R-20              | 6.000000  | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/073R-20              | 7.372800  | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/080R-20              | 8.000000  | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/100R-20              | 10.000000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/115R-20              | 11.059200 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/120R-20              | 12.000000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/143R-20              | 14.318180 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/160R-20              | 16.000000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/200R-20              | 20.000000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/240FR-20             | 24.000000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/245FR-20             | 24.576000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |
| FOXSDLF/250FR-20             | 25.000000 | +/- 30 ppm | +/- 50 ppm | -40 to +85 C | 20pF |

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Components Supply Platform

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