



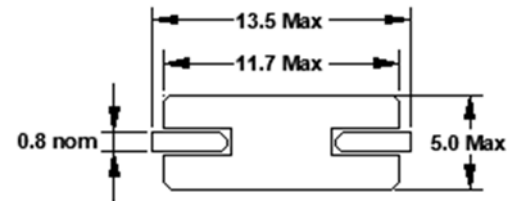
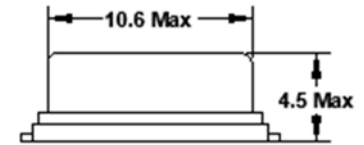
Resistance Weld SMD Crystal C4SD

(former HC49SDF)

DATASHEET

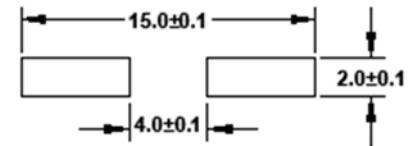
- Tolerances down to ± 10 ppm
- Stabilities down to ± 5 ppm
- Temperature Ranges as wide as -55°C to $+125^{\circ}\text{C}$

| • SPECIFICATIONS | |
|----------------------------------|---|
| PARAMETERS | MAX (unless otherwise noted) |
| Frequency Range | 3.200 ~ 80.000 MHz |
| Frequency Tolerance @ 25°C | (see options on page 2) |
| Frequency Stability, ref @ 25°C | (see options below) |
| Temperature Range | |
| Operating (TOPR) | (see options below) |
| Storage (TSTG) | $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ |
| Shunt Capacitance (Co) | 7pF |
| Load Capacitance (CL) | (see options on page 2) |
| Drive Level | 0.5 mW (0.1 mW typical) |
| Aging per year | ± 3 PPM |
| Maximum Soldering Temp / Time | $260^{\circ}\text{C} / 10$ Seconds x 2 |
| Moisture Sensitivity Level (MSL) | 1 |
| Termination Finish: | Sn/Ag3/Cu0.5 |
| Seal Method | Resistance Weld |
| Lead (Pb) Free | Yes |
| RoHS Compliant | Yes - No Exemptions |



| 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 |
| 24.000 ~ 70.000 | 3rd OT | 100 |
| >70.000 ~ 80.000 | 3rd OT | 70 |

Recommended Solder Pad Layout



Dimensions are in millimeters.

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.

•Available Operating Temperatures and Stabilities*

| Stability Temperature | ± 5 PPM | ± 10 PPM | ± 15 PPM | ± 20 PPM | ± 25 PPM | ± 30 PPM | ± 50 PPM | ± 100 PPM |
|---------------------------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| -10 to $+60^{\circ}\text{C}$ | O | O | O | O | O | O | O | O |
| -20 to $+70^{\circ}\text{C}$ | Δ | O | O | O | O | O | O | O |
| -40 to $+85^{\circ}\text{C}$ | X | X | O | O | O | O | O | O |
| -40 to $+105^{\circ}\text{C}$ | X | X | X | X | X | Δ | O | O |
| -40 to $+125^{\circ}\text{C}$ | X | X | X | X | X | X | Δ | O |
| -55 to $+125^{\circ}\text{C}$ | X | X | X | X | X | X | Δ | O |

Key: O=Available, X=Not Available, Δ =Consult Fox Technical Support
 * Does Not imply a stocked part

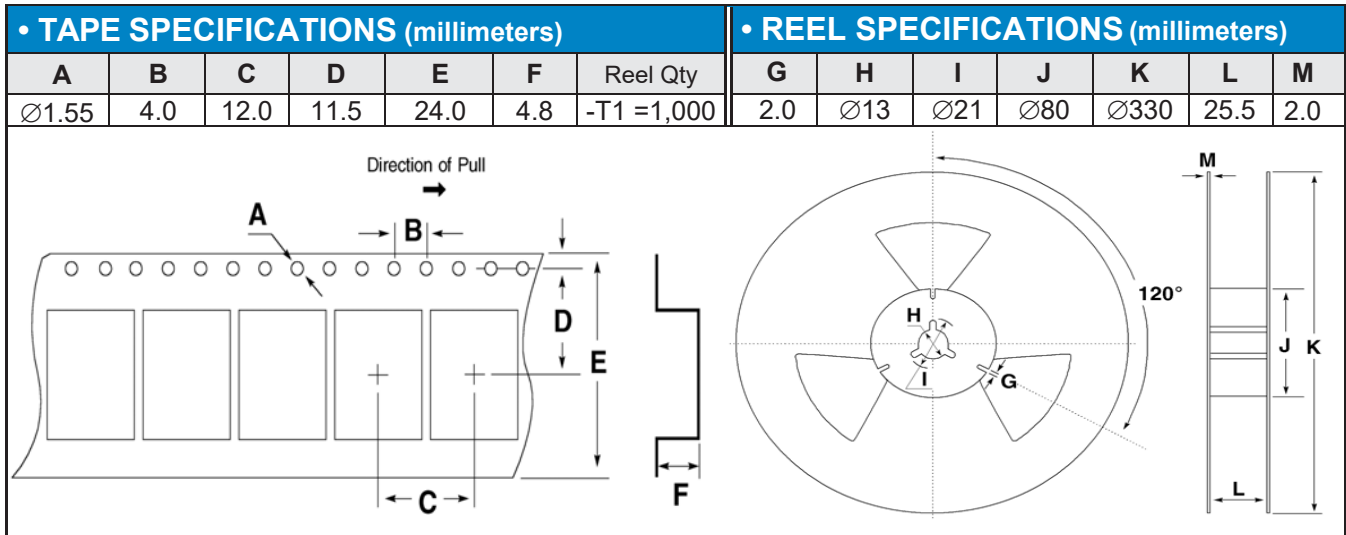
| | | |
|--|---|----------------------------------|
| <p>© Copyright 2019 Fox Electronics. All rights reserved</p> | Title / Description: C4SD SERIES STANDARD SPECIFICATIONS | |
| | Drawing Number: C4SD-DOC-1 | Size: A |
| | Part Number: | Case: 61429 |
| | Draftsperson: MAJ | Approved: BEC |
| | | Revision Date: 06/10/2019 |



Resistance Weld SMD Crystal C4SD

(former HC49SDLF)

DATASHEET



Available Options & Part Identification for Crystal Model C4SD¹

F C4SD C B M F 25.0

| F | C4SD | C | B | M | F | 25.0 |
|------------|---------------------|---|---|--|--|------------------------|
| FOX | Model Number | Tolerance B = ±50ppm C = ±30ppm D = ±25ppm E = ±20ppm F = ±15ppm H = ±10ppm | Stability A = ±100ppm B = ±50ppm C = ±30ppm D = ±25ppm E = ±20ppm F = ±15ppm H = ±10ppm L = ±5ppm | Load Capacitance² A = Series E = 10pF G = 12pF J = 15pF K = 16pF L = 18pF M = 20pF | Operating Temperature D = -10 to +60°C F = -20 to +70°C M = -40 to +85°C P = -40 to +105°C I = -40 to +125°C T = -55 to +125°C | Frequency (MHz) |

¹ Not all frequency, tolerance, stability, load, and operating temperature combinations may be available.

² Listed load capacitances represent the most commonly used. Other load capacitances are available. Contact Fox Technical Support for assistance



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