



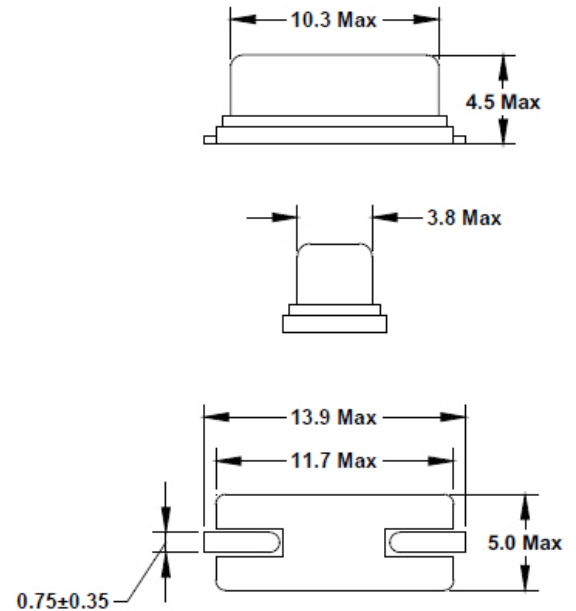
13.9x5mm SMD Crystal

C4SD
(former HC49SDLF)
DATASHEET

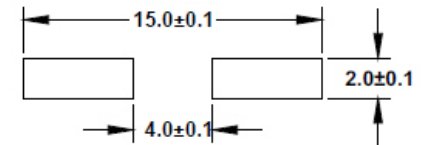
- Tolerances down to 10ppm
- Stabilities down to 5ppm
- Temperature Ranges as wide as -55°C to +125°C

• 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°C ~ +125°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°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish:	Sn/3.0Ag/0.5Cu
Seal Method	Resistance Weld
Lead (Pb) Free	Yes
RoHS Compliant	No Exemptions

Crystal has a ±30ppm tolerance specification for all standard part numbers.



Recommended HC49SD 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.

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

•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°C	O	O	O	O	O	O	O	O
-20 to +70°C	Δ	O	O	O	O	O	O	O
-40 to +85°C	X	X	O	O	O	O	O	O
-40 to +105°C	X	X	X	X	X	Δ	O	O
-40 to +125°C	X	X	X	X	X	X	Δ	O
-55 to +125°C	X	X	X	X	X	X	Δ	O

Key: O=Available, X=Not Available, Δ=Consult Fox Technical Support

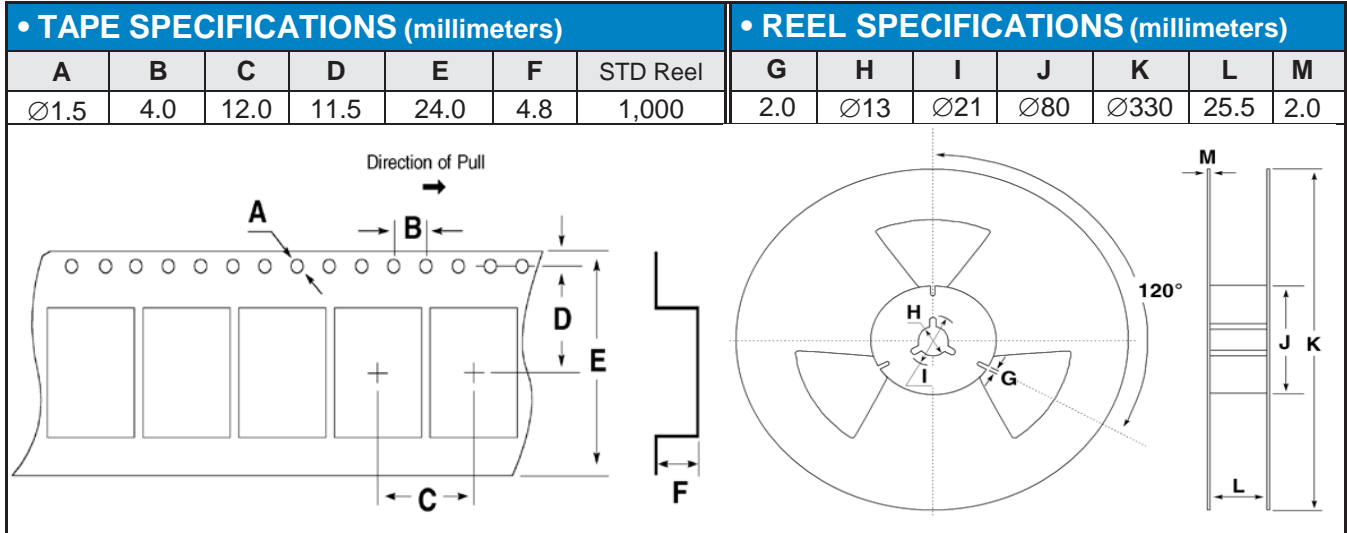
* Does Not imply a stocked part

<p>© Copyright 2017 Fox Electronics. All rights reserved</p>	Title / Description: C4SD SERIES STANDARD SPECIFICATIONS		
	Drawing Number: 100954		Size: A
	Part Number:		Cage: 61429
	Draftsperson: CMR	Approved: RB	Revision Date: 08/23/2017



13.9x5mm SMD Crystal

C4SD
(former HC49SDF)
DATASHEET



Available Options & Part Identification for Crystal Model C4SD*

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 Capacitance A=Series E=10pF G=12pF J=15pF K=16pF L=18pF M=20pF N=22pF Q=30pF R=32pF	Operating Temperature D=-10 to +60C F=-20 to +70C M=-40 to +85C P=-40 to +105C I=-40 to +125C T=-55 to +125C	Frequency (MHz)

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

<p>© Copyright 2017 Fox Electronics. All rights reserved</p>	Title / Description: C4SD SERIES STANDARD SPECIFICATIONS		
	Drawing Number: 100954		Size: A
	Part Number:		Cage: 61429
	Draftsperson: CMR	Approved: RB	Revision Date: 08/23/2017



13.9x5mm SMD Crystal

C4SD
(former HC49SDF)
DATASHEET

• HC49SDF 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

	Title / Description: C4SD SERIES STANDARD SPECIFICATIONS		
	Drawing Number: 100954		Size: A
	Part Number:		Cage: 61429
	Draftsperson: CMR	Approved: RB	Revision Date: 08/23/2017



13.9x5mm SMD Crystal

C4SD
(former HC49SDFL)
DATASHEET



Corporate
Headquarters
5570 Enterprise Parkway
Fort Myers, FL 33905
<http://www.FOXONLINE.com>

Sales
1-888-GET-2-FOX (1-888-438-2369) or
1-239-693-0099
<http://www.FOXONLINE.com/repdisty>

Tech Support
<http://www.FOXONLINE.com/email>

PRODUCT USE: Fox Electronics reserves the right to modify the products and/or specifications described herein at any time and at Fox Electronics' sole discretion. All information in this document, including descriptions of product features and performance, is subject to change without notice. Performance specifications and the operating parameters of the described products are determined in the independent state and are not guaranteed to perform the same way when installed in customer products. The information contained herein is provided without representation or warranty of any kind, whether express or implied, including, but not limited to, the suitability of Fox Electronics' products for any particular purpose, an implied warranty of merchantability, or non-infringement of the intellectual property rights of others. This document is presented only as a guide and does not convey any license under intellectual property rights of Fox Electronics or any third parties. Fox Electronics' products are not intended for use in applications involving extreme environmental conditions or in life support systems or similar devices where the failure or malfunction of a Fox Electronics product can be reasonably expected to

	Title / Description: C4SD SERIES STANDARD SPECIFICATIONS		
	Drawing Number: 100954		Size: A
	Part Number:		Cage: 61429
	Draftsperson: CMR	Approved: RB	Revision Date: 08/23/2017