



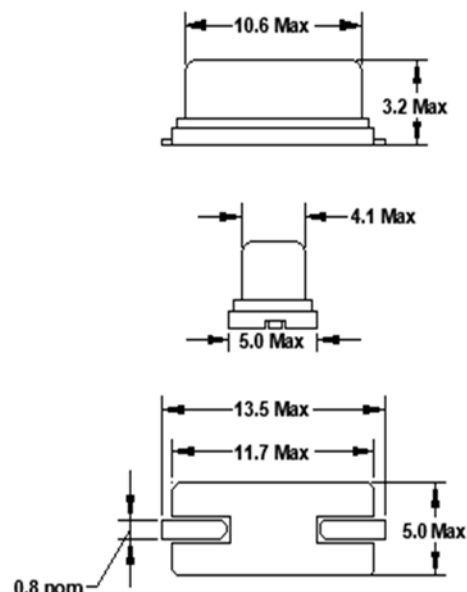
Resistance Weld SMD Crystal C9SD

(former HC49SSDLF)

DATASHEET

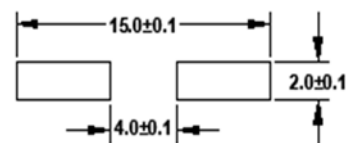
- Tolerances down to ± 10 ppm
- Stabilities down to ± 5 ppm
- Temperature Ranges as wide as -55°C to $+125^{\circ}\text{C}$

• SPECIFICATIONS	
PARAMETERS	MAX (unless otherwise noted)
Frequency Range	4.000 ~ 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
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



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Title / Description: C9SD SERIES STANDARD SPECIFICATIONS

Drawing Number: C9SD-DOC-1

Size: A

Part Number:

Cage: 61429

Draftsperson: MAJ

Approved: BEC

Revision Date: 05/23/2019



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DATASHEET

• TAPE SPECIFICATIONS (millimeters)							• REEL SPECIFICATIONS (millimeters)						
A	B	C	D	E	F	Reel Qty	G	H	I	J	K	L	M
Ø1.55	4.0	12.0	11.5	24.0	3.5	T1 =1,000	2.0	Ø13	Ø21	Ø80	Ø330	25.5	2.0

Available Options & Part Identification for Crystal Model C9SD¹

F C9SD C B M F 25.0

F	C9SD	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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For datasheet type definitions and a glossary of common terms, visit <http://www.foxonline.com/tgcrystals.html>.

	Title / Description: C9SD SERIES STANDARD SPECIFICATIONS		
	Drawing Number: C9SD-DOC-1		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 05/23/2019

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