



# Resistance Weld SMD Crystal

**C9SD**  
(former HC49SSDLF)  
DATASHEET

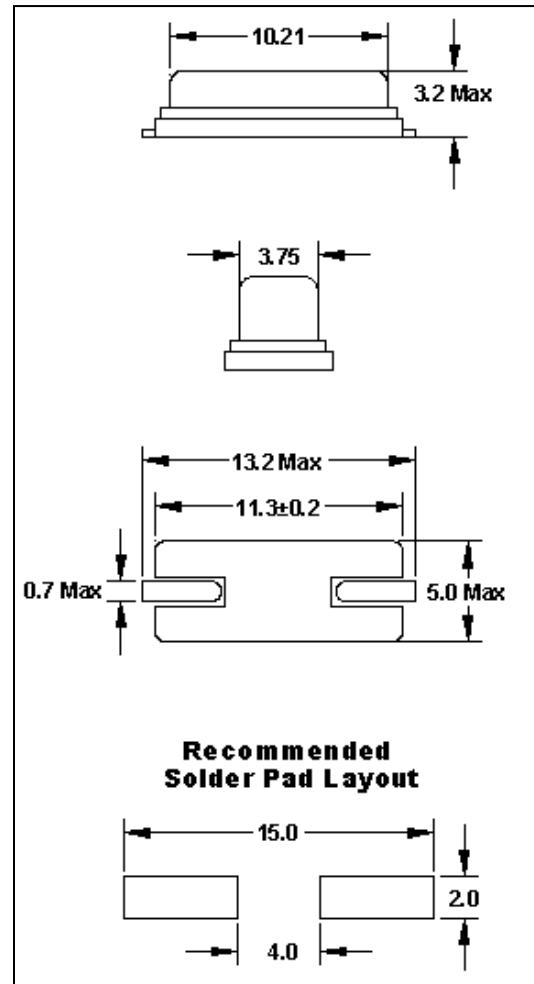
Page 1 of 2

- Tolerances down to 10 PPM
- Stabilities down to 5 PPM

## • C9SD STANDARD 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 Over Operating Temp Range	(See options on page 2)
Temperature Range Operating (TOPR) Storage (TSTG)	(See options below) -40°C ~ +85°C
Shunt Capacitance (Co)	7pF
Load Capacitance (CL)	(See options on page 2)
Drive Level	0.5 mW
Aging per year	±5 PPM
Maximum Soldering Temp / Time	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Sn/3.0Ag/0.5Cu
Seam Method	Resistance Weld
Lead (Pb) Free	Yes
RoHS Complaint	Yes

Frequency Range (MHz)	Operating Mode	Max ESR
4.000000 ~ 5.000	Fundamental	150
5.000001 ~ 6.000	Fundamental	120
6.000001 ~ 7.000	Fundamental	100
7.000001 ~ 9.000	Fundamental	80
9.000001 ~ 13.000	Fundamental	60
13.000001 ~ 20.000	Fundamental	40
20.000001 ~ 40.000	Fundamental	30
24.576000 ~ 70.000	3rd OT	100
70.000001 ~ 80.000	3rd OT	70



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\*

Operating Temperature	±5 PPM	±10 PPM	±15 PPM	±20 PPM	±25 PPM	±30 PPM	±50 PPM
-10°C to +60°C	O	O	O	O	O	O	O
-20°C to +70°C	X	O	O	O	O	O	O
-40°C to +85°C	X	X	O	O	O	O	O
-40°C to +105°C	X	X	X	X	X	X	O

Key: O=Available, X=Not Available,

\*Does not imply a stocked part.

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	Drawing Number: 101158						Size: A
	Part Number:						Cage: 61429
	Draftsperson: CMR				Approved: RB		Revision Date: 04/28/2017



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• TAPE SPECIFICATIONS (millimeters)							• REEL SPECIFICATIONS (millimeters)						
A	B	C	D	E	F	Reel QTY	G	H	I	J	K	L	M
Ø1.5	4.0	12.0	11.5	24.0	3.5	1,000	2.0	Ø13	Ø21	Ø80	Ø330	25.5	2.0
Direction of Pull													

Page 2 of 2

### Available Options & Part Identification for SMD Crystal C9SD\*

**F C9SD C B M F 10.0**

F	C9SD	C	B	M	F	10.0
<b>FOX</b>	<b>Model Number</b>	<b>Tolerance</b> B=50ppm <b>C=30ppm</b> D=25ppm E=20ppm F=15ppm H=10ppm	<b>Stability</b> B=50ppm C=30ppm D=25ppm E=20ppm F=15ppm H=10ppm L=5ppm	<b>Load Capacitance</b> A-Series E=10pF G=12pF K=16pF L=18pF <b>M=20pF</b> Q=30pF	<b>Operating Temperature</b> D=-10 to +60C <b>F=-20 to +70C</b> M=-40 to +85C P=-40 to +105C	<b>Frequency (MHz)</b>

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



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