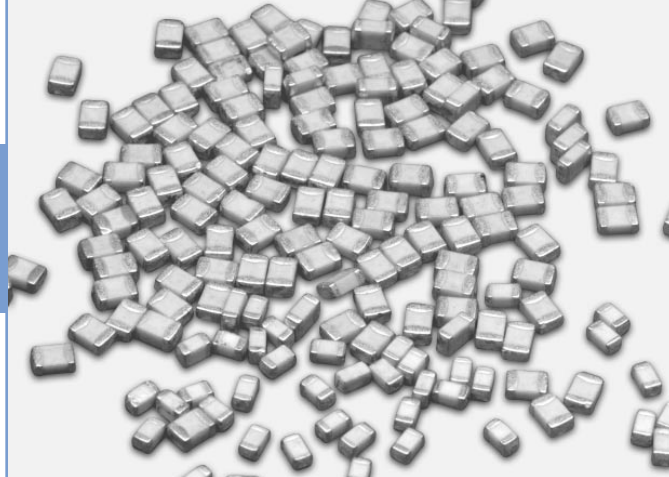


Surface Mount High Frequency Ceramic Chip Inductors

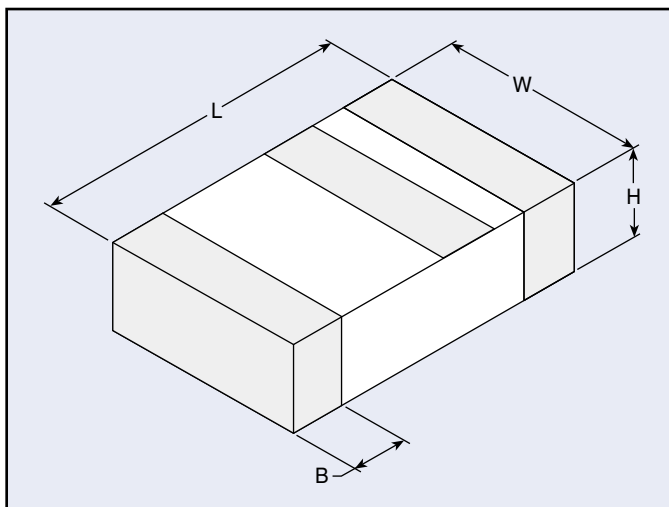


Features

- High Q characteristics at high frequency and self-resonant frequency
- Available in standard EIA/EIAJ chip sizes (0402/1005, 0603/1608, 0805/2012, etc.)
- Excellent solderability is achieved from a nickel barrier with a solder overplate
- Parts are suitable for flow or re-flow soldering
- Available in tape and reel for easy placement
- Provides high reliability in a temperature range of -40°C to +125°C over a wide range of humidity
- Parts can be used at frequency up to 6 GHz with Q values of 10 to 23 at 100 MHz, up to 63 at 800 MHz
- Standard inductance range of 1.0 to 100 nH

Applications

- Designed to address surface mountable inductor needs at high frequency
- Telecommunications equipment (cellular phones, pagers, etc.)
- Computer communication equipment
- Radar detectors
- Any high frequency circuits



Note: The ceramic chip inductors have a blue strip on one side of the part to allow for proper placement. The blue strip needs to be on the top side, away from the board to get proper electrical characteristics.

Part Numbering System

Example: **CIN-0402-H8D2JB**

CIN	-	0402	-	H	8D2	J	B
Series		Part Size		Material Characteristic	Inductance Code	Tolerance Code	Packaging
Ceramic Inductor		EIA Size (Length x Width)		Determined by the desired electrical characteristic	Value is measured in nH D stands for decimal point 8D2 = 8.2 nH	S = ±0.3 nH T = ±3% J = ±5% K = ±10% M = ±20% Note: Please check tables for available tolerances on individual parts.	7 = 7 inch reel 3 = 13 inch reel

Land Patterns and Soldering Temperature Profiles

- See page 45.

Packaging Specifications and Storage Requirements

- See page 46.

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Physical Characteristics

Size		Physical Dimensions			
EIA	EIAJ	Length (L)	Width (W)	Height (H)	Termination Band (B)
0402	1005	0.039 ± 0.004 (1.00 ± 0.10)	0.02 ± 0.004 (0.50 ± 0.10)	0.02 ± 0.004 (0.50 ± 0.10)	0.01 ± 0.004 (0.25 ± 0.10)
0603	1608	0.063 ± 0.006 (1.60 ± 0.15)	0.031 ± 0.006 (0.80 ± 0.15)	0.031 ± 0.006 (0.80 ± 0.15)	0.012 ± 0.008 (0.30 ± 0.20)
0805	2012	0.079 ± 0.008 (2.00 ± 0.20)	0.049 ± 0.008 (1.25 ± 0.20)	0.035 ± 0.012 (0.90 ± 0.3) 0.039 ± 0.012 (1.0 ± 0.3)	0.020 ± 0.012 (0.50 ± 0.30)

Dimensions in inches (mm)

Electrical Characteristics

Standard CIN-0402 Sizes

Part Number	Inductance L (nH)	Available Tolerances			Typ. Q (100 MHz)	Typ. Q (800 MHz)	Typ. SRF (MHz)	Max. DCR (Ohm)	Max. Current (mA)	
		S ±0.3 nH	J ±5%	K ±10%						
CIN-0402-H1D0S*	1.0	X			11	34	4,000	0.12	300	
CIN-0402-H1D2S*	1.2	X						30		0.12
CIN-0402-H1D5S*	1.5	X								0.13
CIN-0402-H1D8S*	1.8	X						0.14		
CIN-0402-H2D2S*	2.2	X			10	29	4,000	0.16	300	
CIN-0402-H2D7S*	2.7	X						0.17		
CIN-0402-H3D3**	3.3	X		X				28		0.19
CIN-0402-H3D9**	3.9	X		X						0.22
CIN-0402-H4D7**	4.7	X		X	0.24					
CIN-0402-H5D6**	5.6	X		X	0.27					
CIN-0402-H6D8**	6.8		X	X	10	28	3,900	0.32	250	
CIN-0402-H8D2**	8.2		X	X				30		0.37
CIN-0402-H10D**	10		X	X						0.42
CIN-0402-H12D**	12		X	X				0.50		
CIN-0402-H15D**	15		X	X	11	30	2,100	0.55	200	
CIN-0402-H18D**	18		X	X				1,900		0.65
CIN-0402-H22D**	22		X	X						1,600
CIN-0402-H27D**	27		X	X				1,300		
CIN-0402-H33D**	33		X	X	11	24	1,200	1.0	150	
CIN-0402-H39D**	39		X	X				1,000		1.2
CIN-0402-H47D**	47		X	X						750
CIN-0402-H56D**	56		X	X				1.4		

Notes: * Please add packaging code at the end of part.

** Please add tolerance and packaging code at the end of part.

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Electrical Characteristics *continued*

Standard CIN-0603 Sizes

Part Number	Inductance L (nH)	Available Tolerances				Typ. Q (100 MHz)	Typ. Q (800 MHz)	Typ. SRF (MHz)	Max. DCR (Ohm)	Max. Current (mA)
		S ±0.3 nH	T ±3%	J ±5%	K ±10%					
CIN-0603-H1D2S*	1.2	X				12	40	>6,000	0.10	300
CIN-0603-H1D5S*	1.5	X								
CIN-0603-H1D8S*	1.8	X					36			
CIN-0603-H2D2S*	2.2	X					37			
CIN-0603-H2D7S*	2.7	X				13	41	>6,000	0.10	300
CIN-0603-H3D3**	3.3	X			X					
CIN-0603-H3D9**	3.9	X			X					
CIN-0603-H4D7**	4.7	X			X					
CIN-0603-H5D6**	5.6	X			X	42	4,350	0.18		
CIN-0603-H6D8**	6.8			X	X	14	43	3,750	0.22	300
CIN-0603-H8D2**	8.2			X	X			3,300	0.24	
CIN-0603-H10D**	10			X	X			2,850	0.26	
CIN-0603-H12D**	12			X	X			2,700	0.28	
CIN-0603-H15D**	15			X	X	15	43	2,400	0.32	300
CIN-0603-H18D**	18			X	X			2,050	0.35	
CIN-0603-H22D**	22		X	X	X	16	44	1,850	0.4	
CIN-0603-H27D**	27		X	X	X			1,750	0.45	
CIN-0603-H33D**	33		X	X	X	17	40	1,500	0.55	300
CIN-0603-H39D**	39		X	X	X			1,350	0.6	
CIN-0603-H47D**	47		X	X	X			1,200	0.7	

Notes: * Please add packaging code at the end of part.

** Please add tolerance and packaging code at the end of part.

Standard CIN-0805 Sizes

Part Number	Inductance L (nH)	Available Tolerances				Typ. Q (100 MHz)	Typ. Q (800 MHz)	Typ. SRF (MHz)	Max. DCR (Ohm)	Max. Current (mA)	
		S ±0.3 nH	J ±5%	K ±10%	M ±20%						
CIN-0805-H1D5S*	1.5	X				18	60	>6,000	0.1	300	
CIN-0805-H1D8S*	1.8	X					55				
CIN-0805-H2D2S*	2.2	X					53				
CIN-0805-H2D7S*	2.7	X				16	54	>6,000	0.13	300	
CIN-0805-H3D3**	3.3	X		X	X						
CIN-0805-H3D9**	3.9	X		X	X						
CIN-0805-H4D7**	4.7	X		X	X						
CIN-0805-H5D6**	5.6	X		X	X	20	60	4,000	0.23	300	
CIN-0805-H6D8**	6.8		X	X	X			3,650	0.25		
CIN-0805-H8D2**	8.2		X	X	X			63	3,000		0.28
CIN-0805-H10D**	10		X	X	X	20	60	2,500	0.3		300
CIN-0805-H12D**	12		X	X	X			2,450	0.35		
CIN-0805-H15D**	15		X	X	X	22	60	2,000	0.4		
CIN-0805-H18D**	18		X	X	X			1,750	0.45		
CIN-0805-H22D**	22		X	X	X	23	1,700	0.5			
CIN-0805-H27D**	27		X	X	X	23	58	1,550	0.55	300	
CIN-0805-H33D**	33		X	X	X			55	1,350		0.6
CIN-0805-H39D**	39		X	X	X			47	1,300		0.65
CIN-0805-H47D**	47		X	X	X			43	1,200		0.7
CIN-0805-H56D**	56		X	X	X	23	39	1,150	0.75	300	
CIN-0805-H68D**	68		X	X	X			30	1,000		0.8
CIN-0805-H82D**	82		X	X	X	22	-	850	0.9		
CIN-0805-H100**	100		X	X	X			-	730		

Notes: * Please add packaging code at the end of part.

** Please add tolerance and packaging code at the end of part.

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Typical Impedance Characteristics (Curves not listed are available upon request or at our website.)

