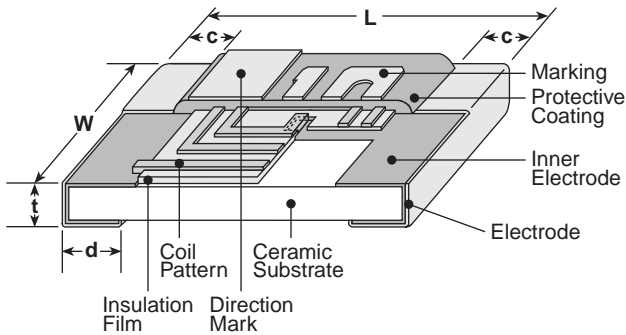


features

- Excellent for high frequency applications
- Low DC resistance and high Q
- Suitable for reflow and wave soldering
- Low tolerance $\pm 2\%$ available
- Small size allows for high density mounting (1H, 1E, 1J, 2A, 2B)
- Marking: Yellow marking on blue protective coating (1E, 1J, 2A, 2B)
White marking on green protective coating (1H)
- Products with lead-free termination meet RoHS requirements

dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
1H (0201)	.024 \pm .001 (0.6 \pm 0.03)	.01 \pm .001 (0.3 \pm 0.03)	.003 \pm .002 (0.08 \pm 0.05)	.006 \pm .002 (0.15 \pm 0.05)	.009 \pm .001 (0.24 \pm 0.03)
1E (0402)	.039 \pm .004 (1.0 \pm 0.1)	.02 \pm .002 (0.5 \pm 0.05)	.006 \pm .004 (0.15 \pm 0.1)	.01 \pm .004 (0.25 \pm 0.1)	.014 \pm .002 (0.35 \pm 0.05)
1J (0603)	.063 \pm .008 (1.6 \pm 0.2)	.031 \pm .004 (0.8 \pm 0.1)	.012 \pm .004 (0.3 \pm 0.1)	.012 \pm .004 (0.3 \pm 0.1)	.02 \pm .004 (0.5 \pm 0.1)
2A (0805)	.079 \pm .008 (2.0 \pm 0.2)	.049 \pm .008 (1.25 \pm 0.2)	.016 \pm .008 (0.4 \pm 0.2)	.012 \pm .004 (0.3 \pm 0.2)	.02 \pm .004 (0.5 \pm 0.1)
2B (1206)	.126 \pm .008 (3.2 \pm 0.2)	.063 \pm .008 (1.6 \pm 0.2)	.02 \pm .008 (0.5 \pm 0.2)	.016 \pm .008 (0.4 \pm 0.2)	.024 \pm .004 (0.6 \pm 0.1)

Inductance Marking

Part 1J (nH)	Marking
1.0	L1
1.2	L2
1.5	L3
1.8	L4
2.2	22
2.7	27
3.3	33
3.9	39
4.7	47
5.6	56
6.8	68
8.2	82

Part 1J (nH)	Marking
10	10
12	12
15	15
18	H1
22	H2
27	H3
33	H4
39	H5
47	H6
56	H7
68	H8
82	H9

Part Marking	Value (nH) 2.2 - 8.2	Value (nH) 10 - 47
2A	Ex. = 2.2 = 2.2nH	Ex. = 15 = 15nH
2B	Ex. = 2N2 = 2.2nH	Ex. = 15N = 15nH

No marking on 1E (0402)

ordering information

New Part #	KL73	2A	T	TE	4N7	G
	Type	Size Code	Termination Material	Packaging	Nominal Inductance	Tolerance
		1H: 0201 1E: 0402 1J: 0603 2A: 0805 2B: 1206	T: Sn	TP: 7" embossed paper 2mm pitch (1E only - 10,000 pieces/reel) TE: 7" embossed plastic 4mm pitch (1J, 2A, 2B - 4,000 pieces/reel) TB: 7" paper tape 2mm pitch (1H only - 10,000 pieces/reel)	4N7: 4.7nH 47N: 47nH	B: ± 0.1 nH C: ± 0.2 nH G: $\pm 2\%$ J: $\pm 5\%$

For further information on packaging, please refer to Appendix A.

applications and ratings

Part Designation	Inductance (nH)	Inductance Tolerance	Quality Factor Minimum	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)	Measured Frequency (MHz)	
KL731HTTB0N6*	0.6	B: ± 0.1 nH, C: ± 0.2 nH	5	9000	0.20	350	500	
KL731HTTB0N7*	0.7	B: ± 0.1 nH						
KL731HTTB0N8*	0.8	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB0N9*	0.9	B: ± 0.1 nH						
KL731HTTB1N0*	1.0	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB1N1*	1.1	B: ± 0.1 nH						
KL731HTTB1N2*	1.2	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB1N3*	1.3	B: ± 0.1 nH						
KL731HTTB1N5*	1.5	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB1N6*	1.6	B: ± 0.1 nH						
KL731HTTB1N8*	1.8	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB2N0*	2.0	B: ± 0.1 nH						
KL731HTTB2N2*	2.2	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB2N4*	2.4	B: ± 0.1 nH						
KL731HTTB2N7*	2.7	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB3N0*	3.0	B: ± 0.1 nH		8000	0.70	200		
KL731HTTB3N3*	3.3	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB3N6*	3.6	B: ± 0.1 nH						
KL731HTTB3N9*	3.9	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB4N3*	4.3	B: ± 0.1 nH						
KL731HTTB4N7*	4.7	B: ± 0.1 nH, C: ± 0.2 nH						
KL731HTTB5N1*	5.1	G: $\pm 2\%$			6000	1.00		130
KL731HTTB5N6*	5.6	G: $\pm 2\%$, J: $\pm 5\%$						
KL731HTTB6N2*	6.2	G: $\pm 2\%$						
KL731HTTB6N8*	6.8	G: $\pm 2\%$, J: $\pm 5\%$						
KL731HTTB7N5*	7.5	G: $\pm 2\%$						
KL731HTTB8N2*	8.2	G: $\pm 2\%$, J: $\pm 5\%$						
KL731HTTB9N1*	9.1	G: $\pm 2\%$		4000		1.30		120
KL731HTTB10N*	10	G: $\pm 2\%$ J: $\pm 5\%$						
KL731HTTB11N*	11							
KL731HTTB12N*	12							
KL731HTTB13N*	13							
KL731HTTB15N*	15							
KL731HTTB16N*	16							
KL731HTTB18N*	18							
KL731HTTB20N*	20							
KL731HTTB22N*	22							
KL731HTTB24N*	24							
KL731HTTB27N*	27							
KL731HTTB33N*	33		2000	5.00	70			
KL731HTTB39N*	39							
			1500	6.00	50			
			1000	7.00	40			
			800					

* Add tolerance character (B, C, G, J)

For complete environmental specifications, please refer to pages 218-219.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

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applications and ratings (continued)

Part Designation	Inductance (nH)	Inductance Tolerance	Quality Factor Minimum	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)	Measured Frequency (MHz)
KL731ETTPN56B	0.56	B: ± 0.1 nH	7	14000	0.10	700	500
KL731ETTPN68B	0.68						
KL731ETTPN82B	0.82						
KL731ETTP1N0*	1.0	B: ± 0.1 nH C: ± 0.2 nH	10	12000	0.15	200	
KL731ETTP1N2*	1.2			10000	0.20		
KL731ETTP1N5*	1.5			8000	0.25		
KL731ETTP1N8*	1.8			6000	0.30		
KL731ETTP2N2*	2.2			5000	0.50		
KL731ETTP2N7*	2.7				0.50		
KL731ETTP3N3*	3.3			4000	1.00		
KL731ETTP3N9*	3.9						550
KL731ETTP4N7*	4.7			3000	1.50		500
KL731ETTP5N6*	5.6						450
KL731ETTP6N8*	6.8	2500	2.00	350			
KL731ETTP8N2*	8.2			300			
KL731ETTP10N*	10	G: $\pm 2\%$ J: $\pm 5\%$	7	250	3.00	200	
KL731ETTP12N*	12			1500			
KL731ETTP15N*	15	1000	7	1500	5.00	150	
KL731ETTP18N*	18						
KL731ETTP22N*	22	C: ± 0.2 nH	20	1000	0.10	650	
KL731ETTP27N*	27			13000			
KL731ETTP33N*	33	G: $\pm 2\%$ J: $\pm 5\%$	25	10000	0.15	450	
KL731JTTE1N0*	1.0			8000			
KL731JTTE1N2*	1.2			6000	0.25	350	
KL731JTTE1N5*	1.5			5000			
KL731JTTE1N8*	1.8			5000	0.50	350	
KL731JTTE2N2*	2.2						4000
KL731JTTE2N7*	2.7			3000	1.0	250	
KL731JTTE3N3*	3.3			2500			
KL731JTTE3N9*	3.9			2000	1.50	200	
KL731JTTE4N7*	4.7			1500			
KL731JTTE5N6*	5.6	10	10	1000	2.50	150	
KL731JTTE6N8*	6.8			600			
KL731JTTE8N2*	8.2	600	600	120	4.00	100	
KL731JTTE10N*	10			4.50			
KL731JTTE12N*	12	600	600	100	5.00	100	
KL731JTTE15N*	15			5.00			
KL731JTTE18N*	18	600	600	100	5.00	100	
KL731JTTE22N*	22			5.00			
KL731JTTE27N*	27	600	600	100	5.00	100	
KL731JTTE33N*	33			5.00			
KL731JTTE39N*	39	600	600	100	5.00	100	
KL731JTTE47N*	47			5.00			
KL731JTTE56N*	56	600	600	100	5.00	100	
KL731JTTE68N*	68			5.00			
KL731JTTE82N*	82	600	600	100	5.00	100	
KL731JTTE82N*	82			5.00			

* Add tolerance character (B, C, G, J)

For complete environmental specifications, please refer to pages 218-219.

applications and ratings (continued)

Part Designation	Inductance (nH)	Inductance Tolerance	Quality Factor Minimum	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)	Measured Frequency (MHz)					
KL732ATTE1N0*	1.0	C: $\pm 0.2\text{nH}$	20	13000	0.25	900	500					
KL732ATTE1N2*	1.2			10000								
KL732ATTE1N5*	1.5			9000								
KL732ATTE1N8*	1.8			8000								
KL732ATTE2N2*	2.2		25	20		6000		0.50	800			
KL732ATTE2N7*	2.7					5000						
KL732ATTE3N3*	3.3					4500						
KL732ATTE3N9*	3.9					4000						
KL732ATTE4N7*	4.7			15		20			3000	1.00	700	
KL732ATTE5N6*	5.6								2500			
KL732ATTE6N8*	6.8	2000										
KL732ATTE8N2*	8.2	1500										
KL732ATTE10N*	10	10			15	1000	1.50		500			
KL732ATTE12N*	12					800						
KL732ATTE15N*	15		700	200								
KL732ATTE18N*	18				4.00							
KL732ATTE22N*	22	G: $\pm 2\%$ J: $\pm 5\%$	20	1500	5.00	300	200					
KL732ATTE27N*	27			1000								
KL732ATTE33N*	33		15	15		800		200				
KL732ATTE39N*	39					700						
KL732ATTE47N*	47			10		200						
KL732ATTE56N*	56								4.00			
KL732ATTE68N*	68		C: $\pm 0.2\text{nH}$	25		700		0.25	150	500		
KL732ATTE82N*	82					600						
KL732BTTE2N2*	2.2					9000						
KL732BTTE2N7*	2.7					7000						
KL732BTTE3N3*	3.3	35		25	6000	0.50	1000		500			
KL732BTTE3N9*	3.9				5000							
KL732BTTE4N7*	4.7				4500							
KL732BTTE5N6*	5.6				4000							
KL732BTTE6N8*	6.8			40	20		3500				1.00	900
KL732BTTE8N2*	8.2						3000					
KL732BTTE10N*	10		2500									
KL732BTTE12N*	12		2000									
KL732BTTE15N*	15		1500									
KL732BTTE18N*	18		25		15		1000	2.00		500		
KL732BTTE22N*	22	1000										
KL732BTTE27N*	27	500		200								
KL732BTTE33N*	33				2.00							
KL732BTTE39N*	39	15	15	400	200							
KL732BTTE47N*	47			500								
KL732BTTE56N*	56		400	200								
KL732BTTE68N*	68					200						
KL732BTTE82N*	82	100	200									
KL732BTTE100*	100			400								

* Add tolerance character (B, C, G, J)

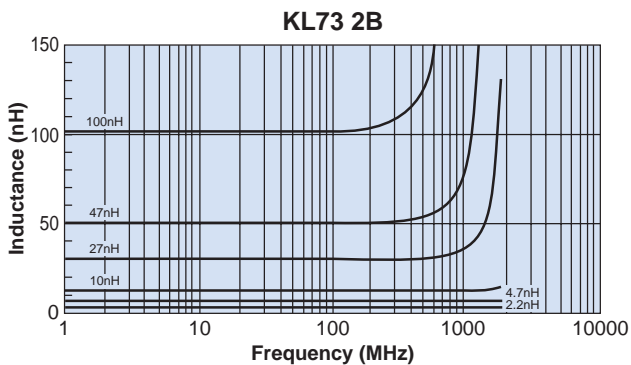
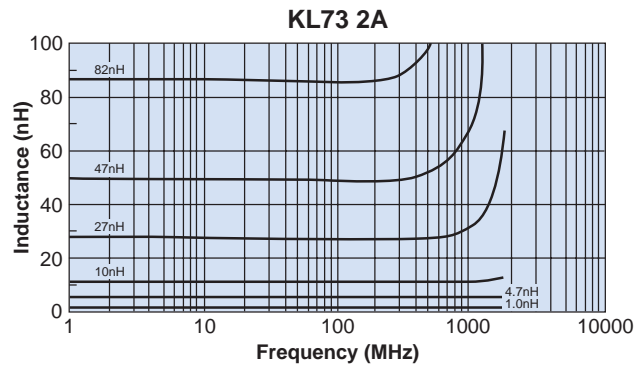
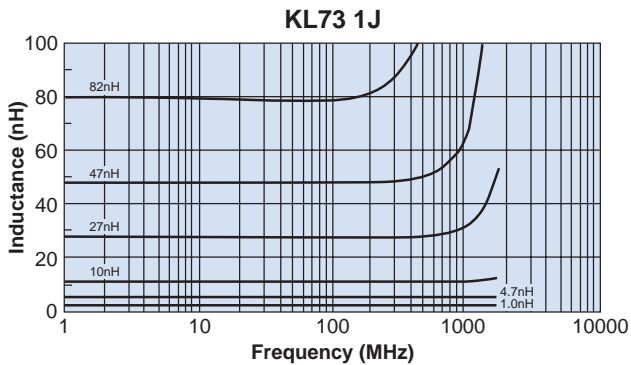
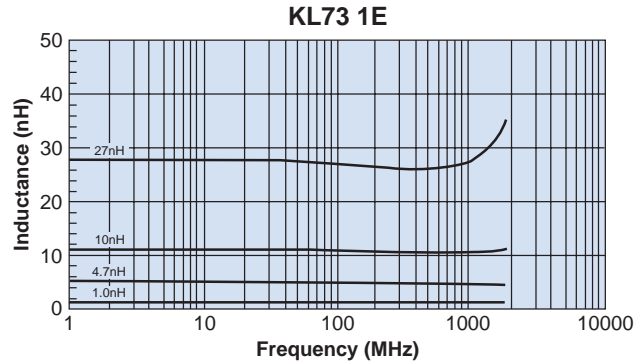
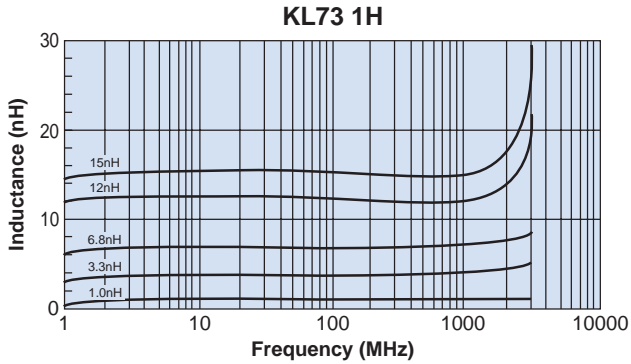
For complete environmental specifications, please refer to pages 218-219.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

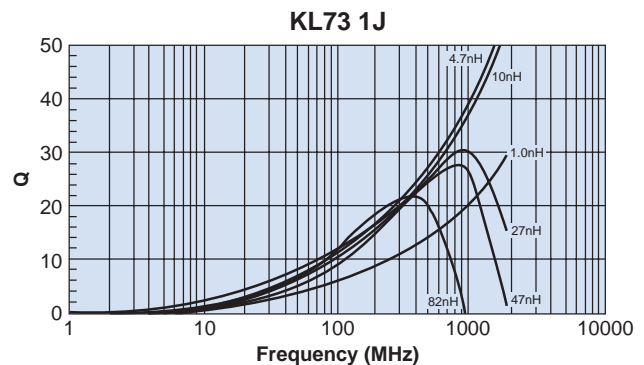
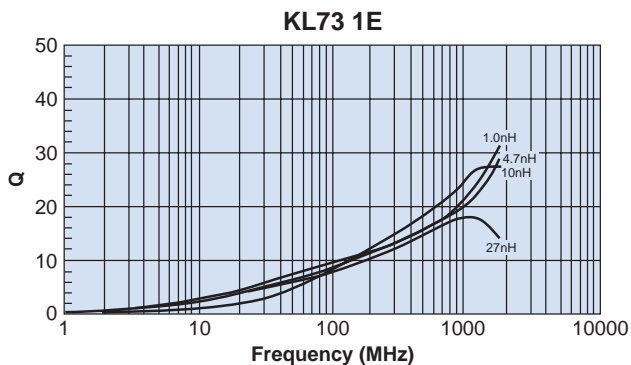
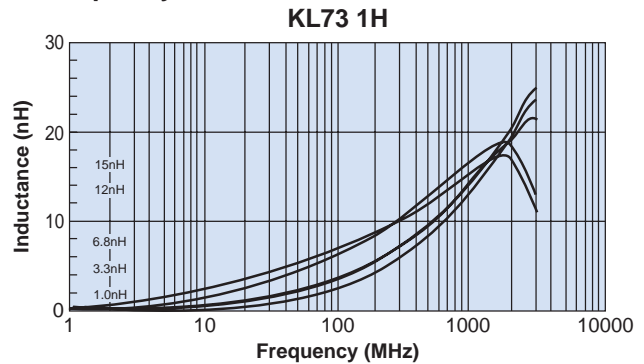
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environmental applications

L-Frequency Characteristics



Q-Frequency Characteristics



Test equipment: Agilent E4991A impedance analyzer (1H)

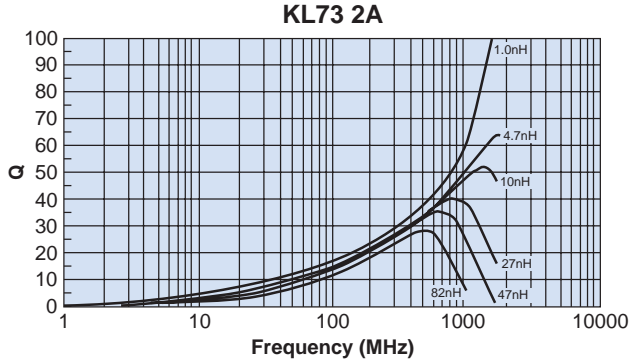
Test equipment: HP4291B impedance analyzer (1E, 1J, 2A, 2B)

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

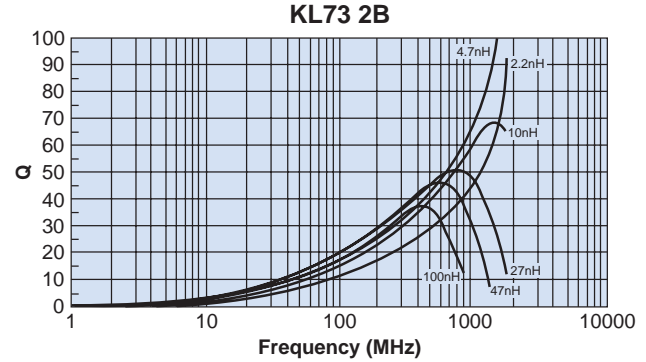
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environmental applications (continued)

Q-Frequency Characteristics (continued)



Test equipment: Agilent E4991A impedance analyzer (1H)



Test equipment: HP4291B impedance analyzer (1E, 1J, 2A, 2B)

Performance Characteristics

Parameter	Maximum ΔL	Test Method
Terminal Pull Strength	No evidence of breakdown	Terminals shall withstand a pull of 0.5Kg in a horizontal direction
Terminal Bending Strength	No evidence of breakdown $\Delta R/R \pm 1\%$, $\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	3mm deflection in either direction
Resistance to Solder Heat	No evidence of outer damage $\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	Immerse in solder (H63A) @ $260^\circ \pm 5^\circ\text{C}$ for 10 seconds ± 1 second
Solderability	95% of the terminal should be covered with new solder	Immerse in solder (H63A) @ $230^\circ \pm 5^\circ\text{C}$ for 3 seconds ± 0.5 second
Low Temperature Characteristics	$\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	Store @ $-40^\circ\text{C} \pm 3^\circ\text{C}$ for 1000 hours
Resistance to Heat	$\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	Store @ $125^\circ\text{C} \pm 2^\circ\text{C}$ for 1000 hours
Thermal Shock	$\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	-40°C for 30 minutes and $+125^\circ\text{C}$ for 30 minutes, 100 cycles
Moisture Endurance	No evidence of damage $\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	$40^\circ\text{C} \pm 2^\circ\text{C}$, 90 - 95% RH, 1000 hours
Vibration	No evidence of breakdown $\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	2 hours in each direction of X, Y, Z on PCB at a frequency range of 10 - 55 - 10Hz with 1.5mm amplitude
Dropping	No evidence of damage $\Delta L/L \pm 2\%$ $\Delta Q/Q \pm 20\%$	MIL-STD-202, Method 213, Item 4.1 condition C
Resistance to Solvents	No outer damage and markings must remain legible	MIL-STD-202, Method 215