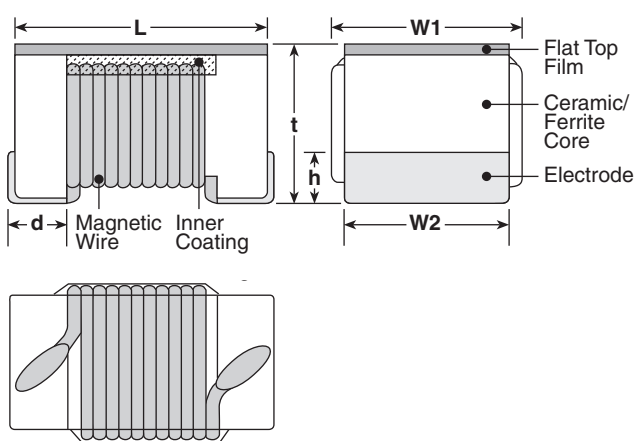


features

- Surface mount
- Flat top suitable for high speed pick-and-place components
- Excellent high frequency applications
- High Q factors and self-resonant frequency values
- Marking: Black body color with white marking (0603, 0805, 1008)
White body color with no marking (0402)
- Products with lead-free terminations meet EU RoHS requirements

dimensions and construction



Size Code	Dimensions inches (mm)					
	L	W1	W2	t	h	d
KQT0402	.039±.004 (1.0±0.1)	.02±.004 (0.5±0.1)	.02±.004 (0.5±0.1)	.022±.004 (0.55±0.1)	.006±.004 (0.15±0.1)	.01±.004 (0.25±0.1)
KQ0603	.063±.004 (1.6±0.1)	.039±.004 (1.0±0.1)	.033±.004 (0.85±0.1)	.035±.004 (0.9±0.1)	.01±.006 (0.25±0.15)	.014±.004 (0.35±0.1)
KQ0805	.079±.008 (2.0±0.2)	.059±.008 (1.5±0.2) (3.3nH-390nH)	.053±.004 (1.35±0.1)	.051±.008 (1.3±0.2)	.016±.006 (0.40±0.15)	.018±.004 (0.45±0.1)
		.063±.008 (1.6±0.2) (470nH-820nH)				
KQ1008	.098±.008 (2.5±0.2)	.087±.008 (2.2±0.2)	.079±.004 (2.0±0.1)	.071 ^{+0.08} ₋₀ (1.8 ^{+0.2} ₋₀)	.018±.006 (0.45±0.15)	.018±.004 (0.45±0.1)

ordering information

New Part #	KQ	1008	T	TE	10N	J
Type	KQ KQT	Size Code 0402 0603 0805 1008	Termination Material T: Sn	Packaging TP: 2mm pitch paper (0402: 10,000 pieces/reel) TD: 7" paper tape (0402: 2,000 pieces/reel) TE: 7" embossed plastic (0603, 0805, 1008: 2,000 pieces/reel)	Nominal Resistance 10N: 10nH R10: 0.1µH 1R0: 1.0µH	Tolerance B: ±0.1nH C: 0.2nH G: ±2% H: ±3% J: ±5% K: ±10% M: ±20%

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

applications and ratings

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)
KQT0402T**1N0*	—	1.0	250	B: ± 0.1 nH C: ± 0.2 nH	16	250	11000	0.045	1360
KQT0402T**1N9*		1.9							
KQT0402T**2N0*		2.0							
KQT0402T**2N2*		2.2							
KQT0402T**2N4*		2.4							
KQT0402T**2N7*		2.7			17	9600	0.070	1040	
KQT0402T**3N3*		3.3							
KQT0402T**3N6*		3.6							
KQT0402T**3N9*		3.9							
KQT0402T**4N3*		4.3							
KQT0402T**4N7*		4.7		18	8000	0.068	960		
KQT0402T**5N1*		5.1							
KQT0402T**5N6*		5.6							
KQT0402T**6N2*		6.2							
KQT0402T**6N8*		6.8							
KQT0402T**7N5*		7.5		19	7200	0.066	840		
KQT0402T**8N2*		8.2							
KQT0402T**8N7*		8.7							
KQT0402T**9N0*		9.0							
KQT0402T**9N5*		9.5							
KQT0402T**10N*		10		20	6000	0.091	800		
KQT0402T**11N*		11							
KQT0402T**12N*		12							
KQT0402T**13N*		13							
KQT0402T**15N*		15							
KQT0402T**16N*		16		20	5800	0.083	760		
KQT0402T**18N*		18							
KQT0402T**19N*		19							
KQT0402T**20N*		20							
KQT0402T**22N*		22							
KQT0402T**23N*		23		22	4800	0.086	680		
KQT0402T**24N*		24							
KQT0402T**27N*		27							
KQT0402T**30N*		30							
KQT0402T**33N*		33							
KQT0402T**34N*		34		20	5800	0.104	680		
KQT0402T**36N*		36							
KQT0402T**39N*		39							
KQT0402T**40N*		40							
KQT0402T**43N*		43							
KQT0402T**47N*	47	20	4200	0.150	650				
KQT0402T**51N*	51								
KQT0402T**56N*	56								
KQT0402T**68N*	68								
KQT0402T**82N*	82								
KQT0402T**R10*	100	25	4160	0.104	680				
KQT0402T**R12*	120								
		25	4000	0.150	650				
		21	3900	0.195	480				
		24	3680	0.120	640				
		24	3600	0.180	560				
		25	3280	0.172	500				
		25	3100	0.200	480				
		24	3040	0.202	450				
		25	3000	0.250	400				
		25	2800	0.323	340				
		24	2720	0.214	320				
		25	2700	0.322	300				
		24	2480	0.298	240				
		25	2400	0.354	200				
		24	2320	0.550	150				
		25	2300	0.550	140				
		24	2240	0.620	130				
		25	2200	0.810	120				
		20	2100	0.830	100				
		25	2800	1.170	80				
		22	2000	1.120	60				
		22	1800	1.800	40				
		22	1600	2.090	20				
		22	1500	2.320	10				

* Add tolerance character (B, C, G, H, J, K, M)

** Add packaging code

For complete environmental specifications, please refer to pages 222-223.

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

2/27/07

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)
KQ0603TTE1N6*	C	1.6	250	J: ±5% K: ±10%	24	250	12500	0.03	700
KQ0603TTE1N8*	0	1.8			16			0.045	
KQ0603TTE3N3*	X	3.3			22		6900	0.055	
KQ0603TTE3N6*	E	3.6						0.063	
KQ0603TTE3N9*	1	3.9			5900		0.08		
KQ0603TTE4N3*	F	4.3					0.063		
KQ0603TTE4N7*	G	4.7			20		5800	0.116	
KQ0603TTE5N1*	Y	5.1						0.115	
KQ0603TTE6N8*	2	6.8			27		4800	0.11	
KQ0603TTE7N5*	H	7.5						0.106	
KQ0603TTE8N2*	A	8.2		28	4600		0.12		
KQ0603TTE8N7*	J	8.7					0.109		
KQ0603TTE9N5*	B	9.5		31	4800		0.125		
KQ0603TTE10N*	3	10					0.13		
KQ0603TTE11N*	K	11		33	4000		0.086		
KQ0603TTE12N*	4	12					0.13		
KQ0603TTE15N*	5	15		35	3300		0.17		
KQ0603TTE16N*	L	16					0.104		
KQ0603TTE18N*	6	18		35	3100		0.17		
KQ0603TTE22N*	7	22					0.19		
KQ0603TTE23N*	S	23	38	3000	0.15				
KQ0603TTE24N*	M	24			0.135				
KQ0603TTE27N*	8	27	40	2800	0.22				
KQ0603TTE30N*	N	30			0.144				
KQ0603TTE33N*	9	33	40	2300	0.22				
KQ0603TTE36N*	P	36			0.25				
KQ0603TTE39N*	0	39	40	2200	2000	0.28			
KQ0603TTE43N*	Q	43				0.30			
KQ0603TTE47N*	1	47	38	1900	0.31				
KQ0603TTE51N*	T	51			0.34				
KQ0603TTE56N*	2	56	37	1700	0.49				
KQ0603TTE68N*	3	68			0.54				
KQ0603TTE72N*	4	72	34	1400	0.58				
KQ0603TTE82N*	5	82			0.61				
KQ0603TTER10*	6	100	32	1300	0.65				
KQ0603TTER11*	7	110			1.4				
KQ0603TTER12*	8	120	1400	1300	2.2				
KQ0603TTER15*	9	150			2.3				
KQ0603TTER18*	0	180	25	1200	2.5				
KQ0603TTER20*	U	200			2.4				
KQ0603TTER21*	V	210	24	1000	2.3				
KQ0603TTER22*	1	220			170				
KQ0603TTER25*	W	250	30	900	3.17				
KQ0603TTER27*	2	270			3.0				
KQ0603TTER30*	X	300	30	840	3.7				
KQ0603TTER33*	3	330			190				
KQ0603TTER39*	4	390	50	700	1.21				
KQ0603TTER47*	5	470			1.26				
KQ0603TTER51*	V	510	J: ±5% K: ±10%	610	170				

* Add tolerance character (B, C, G, H, J, K, M)

For complete environmental specifications, please refer to pages 222-223.

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

12/01/08

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)																												
KQ0603TTER56*	6	560	50	J: $\pm 5\%$ K: $\pm 10\%$	30	50	560	2.09	130																												
KQ0603TTER62*	W	620					590	1.89	150																												
KQ0603TTER68*	7	680					540	1.97	140																												
KQ0603TTER75*	X	750					530	2.04	130																												
KQ0603TTER82*	8	820					490	3.09	110																												
KQ0603TTER91*	Y	910					480	2.95	120																												
KQ0603TTE1R0*	9	1000					440	5.13	90																												
KQ0603TTE1R2*	0	1200					400	5.45	80																												
KQ0805TTE3N3*	0	3.3					250	G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$	50	1500	6000	0.08	600																								
KQ0805TTE6N8*	1	6.8	1000	5500	0.11																																
KQ0805TTE8N2*	2	8.2	4700	0.12																																	
KQ0805TTE12N*	3	12	4000	0.15																																	
KQ0805TTE15N*	4	15	3400	0.17																																	
KQ0805TTE18N*	5	18	3300	0.20																																	
KQ0805TTE20N*	Y	20	50	500	2600	0.22			500																												
KQ0805TTE22N*	6	22			2500	0.25																															
KQ0805TTE27N*	7	27			2050	0.27																															
KQ0805TTE33N*	8	33			2000	0.29																															
KQ0805TTE39N*	9	39			1650	0.34																															
KQ0805TTE43N*	4	43			1550	0.34																															
KQ0805TTE47N*	0	47	60	50	1450	0.38	400																														
KQ0805TTE56N*	1	56			1300	0.42																															
KQ0805TTE68N*	2	68			1200	0.46																															
KQ0805TTE82N*	3	82			1100	0.51																															
KQ0805TTER10*	4	100			920	0.56																															
KQ0805TTER12*	5	120			50	250		870	0.64	350																											
KQ0805TTER15*	6	150	850	0.70																																	
KQ0805TTER16*	H	160	48	100			650	1.0																													
KQ0805TTER17*	J	170					600	1.4																													
KQ0805TTER18*	7	180					560	1.5																													
KQ0805TTER19*	D	190					375	1.76																													
KQ0805TTER20*	E	200			23	50	340	1.9																													
KQ0805TTER21*	F	210					188	2.2																													
KQ0805TTER22*	8	220	215	2.35																																	
KQ0805TTER23*	K	230	50	500			4100	0.08	1000																												
KQ0805TTER24*	L	240					3300	0.09																													
KQ0805TTER25*	G	250					3000	0.10																													
KQ0805TTER27*	9	270			350	0.11																															
KQ0805TTER33*	0	330			50	J: $\pm 5\%$ K: $\pm 10\%$	33	100		375	1.76	250																									
KQ0805TTER39*	1	390											25	K: $\pm 10\%$	23	50	340	1.9	230																		
KQ0805TTER47*	2	470	50	J: $\pm 5\%$ K: $\pm 10\%$					33											100	375	1.76	250														
KQ0805TTER56*	3	560																						25	K: $\pm 10\%$	23	50	188	2.2	190							
KQ0805TTER68*	4	680																													50	J: $\pm 5\%$ K: $\pm 10\%$	33	100	375	1.76	250
KQ0805TTER82*	5	820																																			
KQ1008TTE10N*	10N	10			50	J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$	50	500		4100	0.08	1000																									
KQ1008TTE12N*	12N	12								3300	0.09																										
KQ1008TTE15N*	15N	15	3000	0.10																																	
KQ1008TTE18N*	18N	18	2500	0.11																																	

* Add tolerance character (C, G, H, J, K, M)
For complete environmental specifications, please refer to pages 222-223.

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)	
KQ1008TTE22N*	22N	22	50	J: ±5% K: ±10% M: ±20%	55	350	2400	0.12	1000	
KQ1008TTE27N*	27N	27					60	1600		0.13
KQ1008TTE33N*	33N	33			65			1500		0.15
KQ1008TTE39N*	39N	39					60	1300		0.16
KQ1008TTE47N*	47N	47			60			1000		0.18
KQ1008TTE56N*	56N	56					60	950		0.20
KQ1008TTE68N*	68N	68			60			850		0.22
KQ1008TTE82N*	82N	82					60	750		0.56
KQ1008TTER10*	R10	100	25	G: ±2% J: ±5% K: ±10%	45	100		0.63	650	
KQ1008TTER12*	R12	120					45	850	0.70	580
KQ1008TTER15*	R15	150			45			750	0.77	620
KQ1008TTER18*	R18	180					45	700	0.84	500
KQ1008TTER22*	R22	220			45			600	0.91	500
KQ1008TTER27*	R27	270					45	570	1.05	450
KQ1008TTER33*	R33	330			45			500	1.12	470
KQ1008TTER39*	R39	390					45	450	1.19	
KQ1008TTER47*	R47	470			45			415	1.33	400
KQ1008TTER56*	R56	560					45	375	1.40	300
KQ1008TTER62*	R62	620			45			360	1.47	400
KQ1008TTER68*	R68	680					45	320	1.54	360
KQ1008TTER75*	R75	750			45			350	1.61	400
KQ1008TTER82*	R82	820					35	50	320	1.68
KQ1008TTER91*	R91	910			35				50	290
KQ1008TTE1R0*	1R0	1000					28	50		250
KQ1008TTE1R2*	1R2	1200	28	50	200	1.7				
KQ1008TTE1R5*	1R5	1500			22	25	160	1.9	270	
KQ1008TTE1R8*	1R8	1800	22	25			140	2.2	250	
KQ1008TTE2R2*	2R2	2200			20	25	110	2.7	230	
KQ1008TTE2R7*	2R7	2700	20	25			100	2.8		
KQ1008TTE3R3*	3R3	3300			15	7.9	90	3.1	210	
KQ1008TTE3R9*	3R9	3900	15	7.9			80	2.1	240	
KQ1008TTE4R7*	4R7	4700			15	7.9	70	2.3	200	
KQ1008TTE5R6*	5R6	5600	15	7.9			65	2.5	170	
KQ1008TTE6R8*	6R8	6800			60	2.9	150			
KQ1008TTE8R2*	8R2	8200								
KQ1008TTE100*	100	10000								

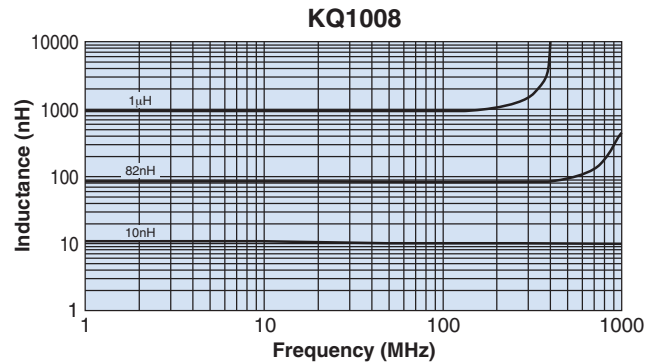
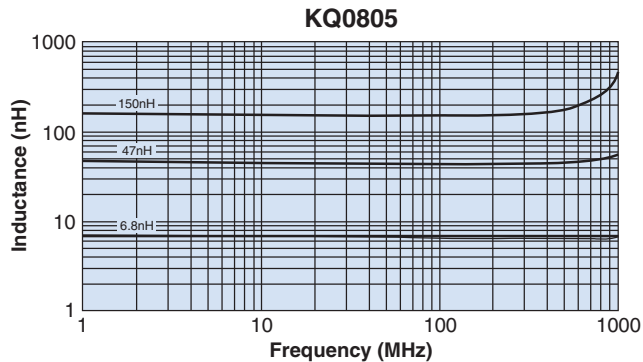
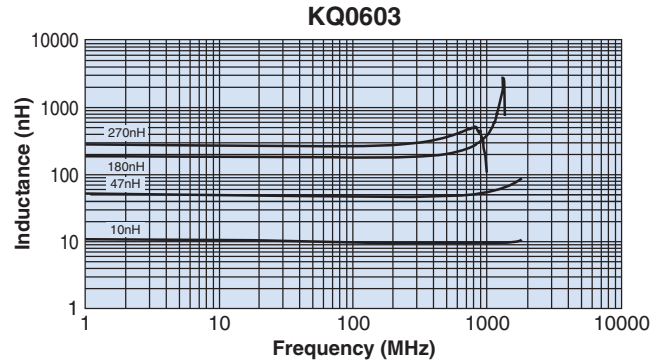
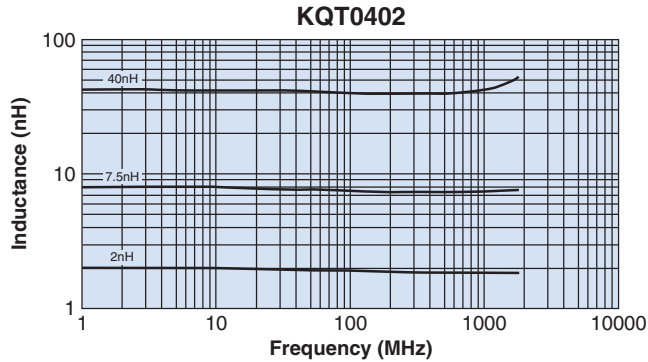
* Add tolerance character (C, G, H, J, K, M)

Inductors

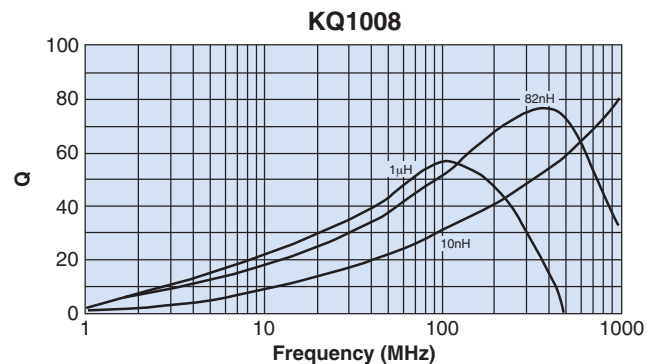
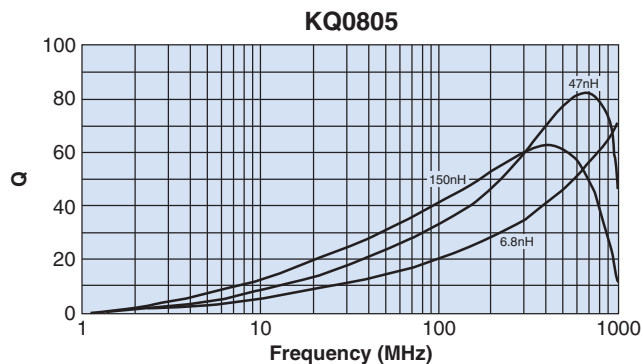
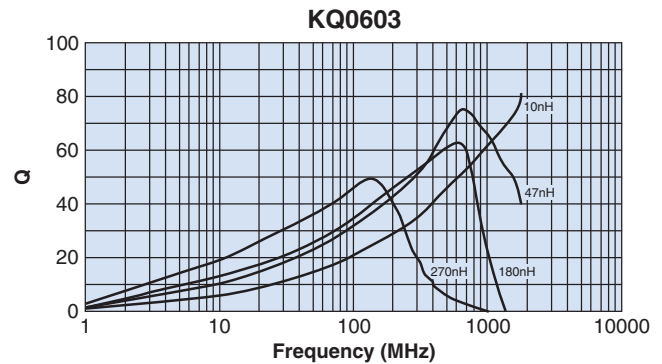
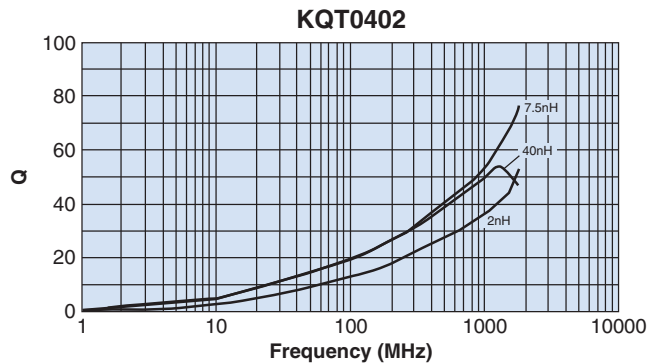
For complete environmental specifications, please refer to pages 222-223.

environmental applications

L-Frequency Characteristics



Q-Frequency Characteristics



Test equipment: HP4291A impedance analyzer

environmental applications (continued)

Performance Characteristics

Parameter	Requirements Maximum Limit	Δ L/L Typical	Test Method
Resistance to Soldering Heat	No significant abnormality in appearance Δ L/L: $\pm 5\%$, Δ Q/Q: $\pm 10\%$	Δ L/L: $\pm 2.7\%$ Δ Q/Q: $\pm 6.6\%$	260°C \pm 5°C, 10s \pm 1s
Rapid Change of Temperature	No significant abnormality in appearance Δ L/L: $\pm 5\%$, Δ Q/Q: $\pm 10\%$	Δ L/L: $\pm 2.1\%$ Δ Q/Q: $\pm 5.3\%$	-40°C (30min.)/ +125°C (30min.) 100 cycles
Low Temperature Exposure	No significant abnormality in appearance Δ L/L: $\pm 5\%$, Δ Q/Q: $\pm 10\%$	Δ L/L: $\pm 1.8\%$ Δ Q/Q: $\pm 2.8\%$	-40°C \pm 2°C, 1000h
High Temperature Exposure	No significant abnormality in appearance Δ L/L: $\pm 5\%$, Δ Q/Q: $\pm 10\%$	Δ L/L: $\pm 1.8\%$ Δ Q/Q: $\pm 5.3\%$	125°C \pm 2°C, 1000h
Moisture Exposure	No significant abnormality in appearance Δ L/L: $\pm 5\%$, Δ Q/Q: $\pm 10\%$	Δ L/L: $\pm 0.9\%$ Δ Q/Q: $\pm 6.9\%$	40°C \pm 2°C, 90%~95%RH, 1000h
Resistance to Solvent	No damage and marking shall remain legible	—	Accordance with MIL-STD 202F Method 215