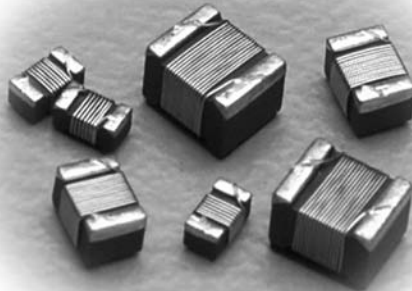
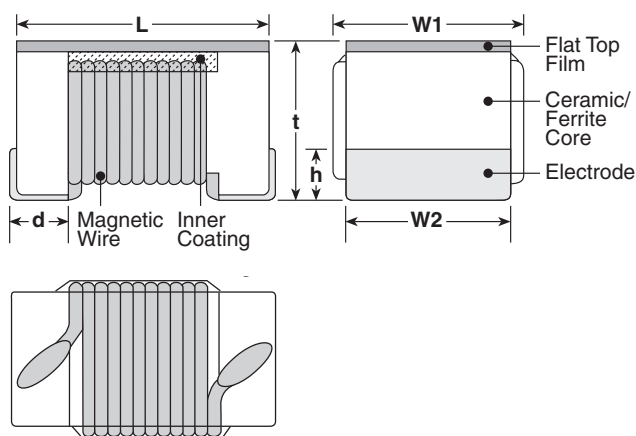


features

- 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 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)	.053±.004 (1.35±0.1)	.051±.008 (1.3±0.2)	.016±.006 (0.40±0.15)	.018±.004 (0.45±0.1)
KQ1008	.098±.008 (2.5±0.2)	.087±.008 (2.2±0.2)	.079±.004 (2.0±0.1)	.071 ^{+0.008} ₋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	Termination Material	Packaging	Nominal Resistance	Tolerance
		0402 0603 0805 1008	T: Sn (Other termination styles available, contact factory for options)	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)	10N: 10nH R10: 0.1µH 1R0: 1.0µH	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					9600		
KQT0402T**2N0*		2.0			8000			0.068	960
KQT0402T**2N2*		2.2					7200		
KQT0402T**2N4*		2.4			6000			0.091	800
KQT0402T**2N7*		2.7					5800		
KQT0402T**3N3*		3.3			4800			0.086	680
KQT0402T**3N6*		3.6					5800		
KQT0402T**3N9*		3.9			4400			0.150	650
KQT0402T**4N3*		4.3					4200		
KQT0402T**4N7*		4.7		4000	0.150	650			
KQT0402T**5N1*		5.1					3900	0.195	480
KQT0402T**5N6*		5.6		3680	0.120	640			
KQT0402T**6N2*		6.2					3600	0.180	560
KQT0402T**6N8*		6.8		3280	0.172	500			
KQT0402T**7N5*		7.5					3100	0.230	480
KQT0402T**8N2*		8.2		3040	0.202	450			
KQT0402T**8N7*		8.7					3000	0.250	450
KQT0402T**9N0*		9.0		2800	0.323	400			
KQT0402T**9N5*		9.5					2720	0.214	400
KQT0402T**10N*		10		2700	0.322	400			
KQT0402T**11N*		11					2480	0.298	400
KQT0402T**12N*		12		2400	0.354	340			
KQT0402T**13N*		13					2400	0.393	340
KQT0402T**15N*		15		2320	0.550	320			
KQT0402T**16N*		16					2300	0.550	300
KQT0402T**18N*		18		2240	0.620	320			
KQT0402T**19N*		19					2200	0.810	300
KQT0402T**20N*		20		2100	0.830	150			
KQT0402T**22N*		22					2100	0.835	240
KQT0402T**23N*		23		2800	1.170	200			
KQT0402T**24N*		24					2000	1.120	200
KQT0402T**27N*		27		1800	1.800	140			
KQT0402T**30N*		30					1600	2.090	130
KQT0402T**33N*		33		1500	2.320	120			
KQT0402T**34N*		34							
KQT0402T**36N*		36							
KQT0402T**39N*		39							
KQT0402T**40N*		40							
KQT0402T**43N*		43							
KQT0402T**47N*	47								
KQT0402T**51N*	51								
KQT0402T**56N*	56								
KQT0402T**68N*	68								
KQT0402T**82N*	82								
KQT0402T**R10*	100								
KQT0402T**R12*	120								

Inductors

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

** Add packaging code

For complete environmental specifications, please refer to pages 225-226.

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)

Inductors

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					0.08		
KQ0603TTE4N3*	F	4.3					5900	0.063	
KQ0603TTE4N7*	G	4.7			20		5800	0.116	
KQ0603TTE5N1*	Y	5.1						0.115	
KQ0603TTE6N8*	2	6.8			27		0.11		
KQ0603TTE7N5*	H	7.5			28		4800	0.106	
KQ0603TTE8N2*	A	8.2					4600	0.12	
KQ0603TTE8N7*	J	8.7					4800	0.109	
KQ0603TTE9N5*	B	9.5					0.125		
KQ0603TTE10N*	3	10			31		0.13		
KQ0603TTE11N*	K	11		33	0.086				
KQ0603TTE12N*	4	12		35	0.13				
KQ0603TTE15N*	5	15		34	4000	0.17			
KQ0603TTE16N*	L	16				3300	0.104		
KQ0603TTE18N*	6	18				3100	0.17		
KQ0603TTE22N*	7	22				3000	0.19		
KQ0603TTE23N*	S	23				2700	0.15		
KQ0603TTE24N*	M	24				37	2650	0.135	
KQ0603TTE27N*	8	27				40	2800	0.22	
KQ0603TTE30N*	N	30				37	2250	0.144	
KQ0603TTE33N*	9	33				40	2300	0.22	
KQ0603TTE36N*	P	36				38	2080	0.25	
KQ0603TTE39N*	0	39	40			2200			
KQ0603TTE43N*	Q	43	39			2000	0.28		
KQ0603TTE47N*	1	47	200			38	200	1900	0.30
KQ0603TTE51N*	T	51							0.31
KQ0603TTE56N*	2	56		37	0.34				
KQ0603TTE68N*	3	68		1700	34			150	0.49
KQ0603TTE72N*	4	72	0.54						
KQ0603TTE82N*	5	82	1400			0.58			
KQ0603TTER10*	6	100	1350			0.61			
KQ0603TTER11*	7	110	32	1300	1400	0.65			
KQ0603TTER12*	8	120				0.92			
KQ0603TTER15*	9	150	100	25	100	1300	2.2		
KQ0603TTER18*	0	180				1200	2.3		
KQ0603TTER20*	U	200						2.5	
KQ0603TTER21*	V	210				1000	2.4		
KQ0603TTER22*	1	220						120	
KQ0603TTER25*	W	250						900	2.3
KQ0603TTER27*	2	270						800	3.0
KQ0603TTER33*	3	330				30	700	100	3.7
KQ0603TTER39*	4	390							80
KQ0603TTER47*	5	470							50
KQ0603TTER56*	6	560	560	2.09	130				

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

For complete environmental specifications, please refer to pages 225-226.

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

1/10/06

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)			
NEW	KQ0603TTER68*	7	680	50	J: $\pm 5\%$ K: $\pm 10\%$	30	50	540	1.97	140			
	KQ0603TTER82*	8	820					490	3.09	110			
	KQ0603TTE1R0*	9	1000					440	5.13	90			
	KQ0603TTE1R2*	0	1200					400	5.45	80			
NEW	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				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				
	NEW	KQ0805TTE43N*	4					43	200		60	1550	0.34
		KQ0805TTE47N*	0					47				1450	0.38
		KQ0805TTE56N*	1					56				1300	0.42
KQ0805TTE68N*		2	68	1200	0.46								
NEW	KQ0805TTE82N*	3	82	150	65	250	1100	0.51	400				
	KQ0805TTER10*	4	100				920	0.56					
	KQ0805TTER12*	5	120				870	0.64					
	KQ0805TTER15*	6	150				50	250		850	0.70		
	KQ0805TTER16*	H	160										
	KQ0805TTER17*	J	170										
	KQ0805TTER18*	7	180										
	KQ0805TTER19*	D	190				48	100		650	1.0		
	KQ0805TTER20*	E	200										
	KQ0805TTER21*	F	210										
KQ0805TTER22*	8	220											
NEW	KQ0805TTER23*	K	230	100	48	250	650	1.0	350				
	KQ0805TTER24*	L	240										
	KQ0805TTER25*	G	250										
	KQ0805TTER27*	9	270										
	KQ0805TTER33*	0	330										
	KQ0805TTER39*	1	390										
	KQ0805TTER47*	2	470							50	33	100	375
NEW	KQ0805TTER56*	3	560	25	J: $\pm 5\%$ K: $\pm 10\%$	23	50	340	1.9	230			
	KQ0805TTER68*	4	680					188	2.2	190			
	KQ0805TTER82*	5	820					215	2.35	180			
	KQ1008TTE10N*	10N	10					50	J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$	50	4100	0.08	1000
KQ1008TTE12N*	12N	12	3300	0.09									
KQ1008TTE15N*	15N	15	3000	0.10									
KQ1008TTE18N*	18N	18	2500	0.11									
KQ1008TTE22N*	22N	22	350	2400	0.12								
KQ1008TTE27N*	27N	27		1600	0.13								
KQ1008TTE33N*	33N	33		1600	0.14								

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

For complete environmental specifications, please refer to pages 225-226.

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)
KQ1008TTE39N*	39N	39	50	J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$	60	350	1500	0.15	1000
KQ1008TTE47N*	47N	47			65			0.16	
KQ1008TTE56N*	56N	56					60	0.18	
KQ1008TTE68N*	68N	68			0.20				
KQ1008TTE82N*	82N	82			0.22				
KQ1008TTER10*	R10	100	25	G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$	45	100	1000	0.56	650
KQ1008TTER12*	R12	120					950	0.63	
KQ1008TTER15*	R15	150					850	0.70	
KQ1008TTER18*	R18	180			750	0.77	620		
KQ1008TTER22*	R22	220			700	0.84	500		
KQ1008TTER27*	R27	270			600	0.91	500		
KQ1008TTER33*	R33	330			570	1.05	450		
KQ1008TTER39*	R39	390			500	1.12	470		
KQ1008TTER47*	R47	470			450	1.19			
KQ1008TTER56*	R56	560			415	1.33	400		
KQ1008TTER62*	R62	620			375	1.40	300		
KQ1008TTER68*	R68	680				1.47	400		
KQ1008TTER75*	R75	750				360	1.54	360	
KQ1008TTER82*	R82	820			350	1.61	400		
KQ1008TTER91*	R91	910			35	50	320	1.68	380
KQ1008TTE1R0*	1R0	1000	290	1.75			370		
KQ1008TTE1R2*	1R2	1200	250	1.6			310		
KQ1008TTE1R5*	1R5	1500	200	1.7					
KQ1008TTE1R8*	1R8	1800	28	160	1.9	270			
KQ1008TTE2R2*	2R2	2200	22		140	2.2	250		
KQ1008TTE2R7*	2R7	2700		20	110	2.7	230		
KQ1008TTE3R3*	3R3	3300	100		2.8				
KQ1008TTE3R9*	3R9	3900	90	3.1	210				
KQ1008TTE4R7*	4R7	4700		80	2.2	240			
KQ1008TTE5R6*	5R6	5600	15	7.9	70	2.5	200		
KQ1008TTE6R8*	6R8	6800			65	2.8	170		
KQ1008TTE8R2*	8R2	8200			60	3.2	150		
KQ1008TTE100*	100	10000							

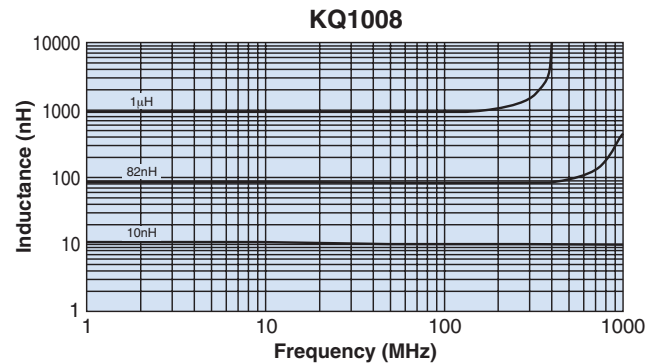
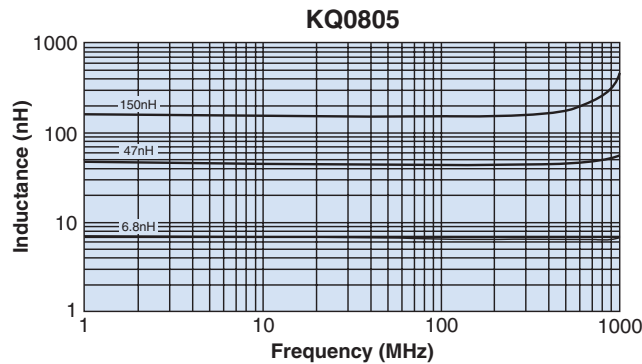
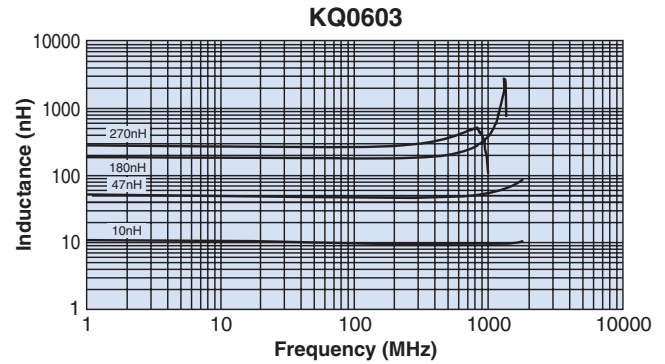
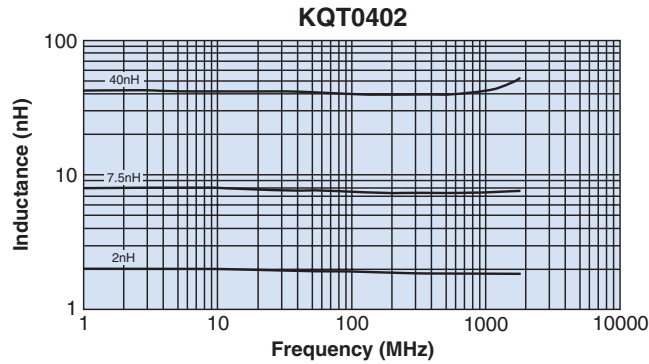
* Add tolerance character (C, G, H, J, K, M)

Inductors

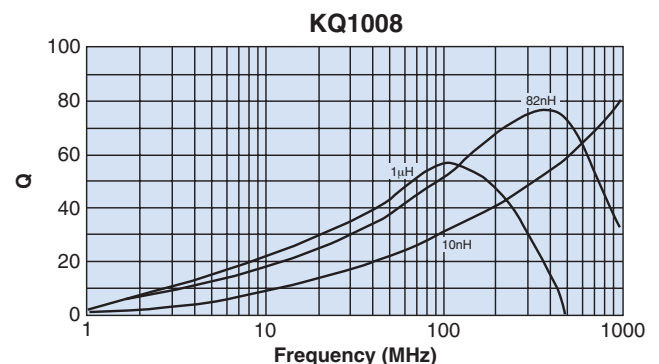
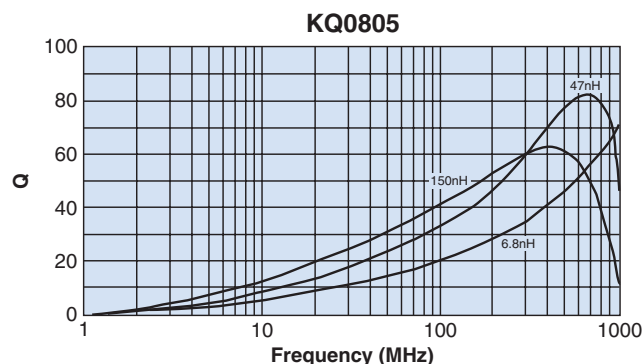
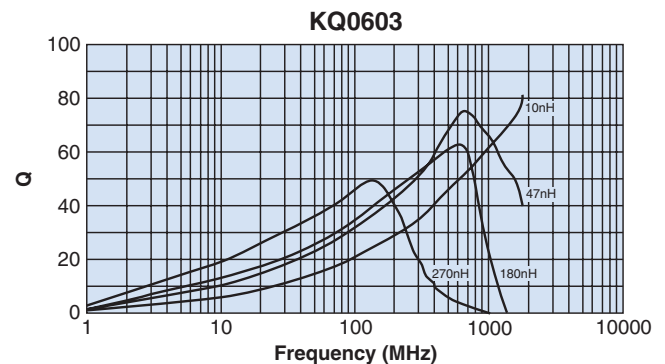
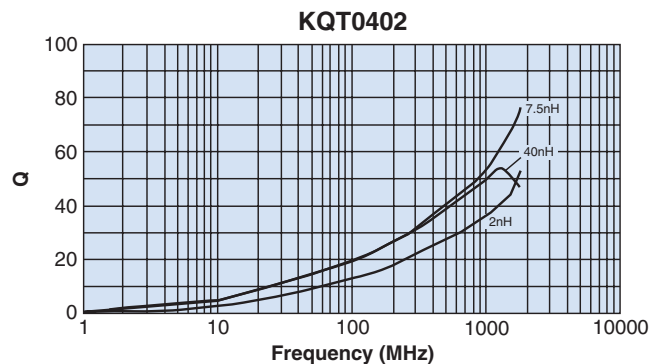
For complete environmental specifications, please refer to pages 225-226.

environmental applications

L-Frequency Characteristics



Q-Frequency Characteristics



Test equipment: HP4291A impedance analyzer

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

12/28/04

environmental applications (continued)

Performance Characteristics

Parameter	Maximum Δ L	Test Method
Dielectric Withstanding Voltage	No evidence of flaming, fuming or breakdown	5 seconds @ AC 500V applied between both terminals and film
Insulation Resistance	1000M Ω and over	1 minute @ DC 100V measured between both terminals and film
Flammability	IEC 695-2-2	Withstands needle-flame test
Terminal Pull Strength	No evidence of damage	Terminals shall withstand a pull of 10N in a horizontal direction (KQ0402 and KQ0603 = 5N, KQ0805 and KQ1008 = 10N)
Terminal Bending Strength	No evidence of breakdown	Specimen shall be soldered on bend test board and force applied to the opposite side to cause a 10mm deflection (KQ0603 = 3mm deflection)
Vibration	Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	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 Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	Dropping 1m on the ground of concrete, 1 time
Resistance to Solder Heat	No evidence of outer damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	Immerse in solder @ $260^\circ \pm 5^\circ\text{C}$ for 10 seconds \pm 1 second
Solderability	95% of the terminal should be covered with new solder	Immerse in solder @ $230^\circ \pm 5^\circ\text{C}$ for 3 seconds \pm 0.5 second
Resistance to Solvents	No damage and marking must remain legible	Accordance with MIL-STD-202, Method 215
Low Temperature Storage	No evidence of damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	Store @ $-40^\circ\text{C} \pm 2^\circ\text{C}$ for 1000 hours
High Temperature Storage	No evidence of damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	Store @ $+125^\circ\text{C} \pm 2^\circ\text{C}$ for 1000 hours
Moisture Endurance	No evidence of damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	$40^\circ\text{C} \pm 2^\circ\text{C}$, 90 - 95% RH, 1000 hours KQT0402: $60^\circ\text{C} \pm 2^\circ\text{C}$, 90 - 95% RH, 1000 hours
Load Life	No evidence of damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	Biased to full rated current @ $+125^\circ\text{C}$, 1000 hours
High Temperature High Humidity	No evidence of damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	Biased to 10% rated current @ $+85^\circ\text{C}$, 85% RH, 1000 hours
Thermal Shock	No evidence of damage Δ L/L within $\pm 5\%$ Δ Q/Q within $\pm 10\%$	100 cycles between $-40^\circ\text{C}/\text{hour}$ and $+125^\circ\text{C}/\text{hour}$
Temperature Characteristics	Δ L/L within $\pm 5\%$	Δ L/L to be measured at the temperatures between -40°C and $+125^\circ\text{C}$, reference to the inductance @ 20°C

Unless otherwise specified, measurements shall be performed within 2 hours after leaving test samples for more than one hour at the normal temperature and at the normal humidity.