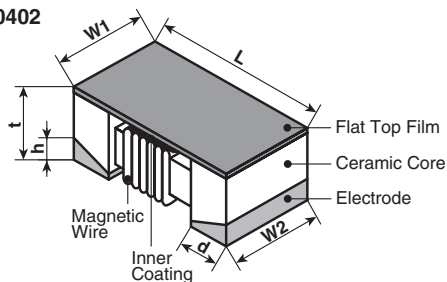


features

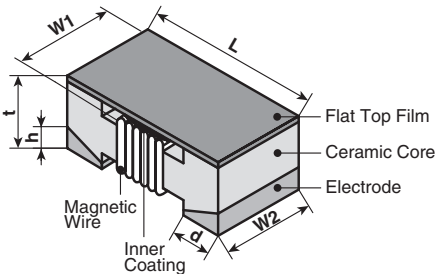
- Surface mount
- Operating temperature: -40°C ~ +125°C
- Flat top suitable for high speed pick-and-place components
- Excellent high frequency applications
- High Q factors and self-resonant frequency values
- Products with lead-free terminations meet EU RoHS requirements
- AEC-Q200 Qualified

dimensions and construction

0402



0603, 0805, 1008



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 ^{+0.008} ₋₀ (1.8 ^{+0.2} ₋₀)	.018±.006 (0.45±0.15)	.018±.004 (0.45±0.1)

ordering information

KQ	1008	T	TE	10N	J
Type	Size Code	Termination Material	Packaging	Nominal Inductance	Tolerance
KQ KQT	0402 0603 0805 1008	T: Sn	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)	3 digits: 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 (MHz)	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: $\pm 0.1\text{nH}$ C: $\pm 0.2\text{nH}$	16	250	11000	0.045	1360
KQT0402T**1N9*		1.9					19	9600	0.070
KQT0402T**2N0*		2.0			18			8000	0.068
KQT0402T**2N2*		2.2					17		0.120
KQT0402T**2N4*		2.4			19			7200	0.066
KQT0402T**2N7*		2.7					18	6000	0.091
KQT0402T**3N3*		3.3			20				5800
KQT0402T**3N6*		3.6					22	4800	
KQT0402T**3N9*		3.9			20			5800	0.104
KQT0402T**4N3*		4.3					20	4400	
KQT0402T**4N7*		4.7		22	4200	0.104		680	
KQT0402T**5N1*		5.1			20	4160	0.150	650	
KQT0402T**5N6*		5.6		21		4000	0.195	480	
KQT0402T**6N2*		6.2			24	3900	0.120	640	
KQT0402T**6N8*		6.8		24		3680		0.180	560
KQT0402T**7N5*		7.5			25	3600	0.172		
KQT0402T**8N2*		8.2		24		3280	0.200	500	
KQT0402T**8N7*		8.7			24	3100	0.230	480	
KQT0402T**9N0*		9.0		25		3040	0.202	450	
KQT0402T**9N5*		9.5			24	3000	0.250	400	
KQT0402T**10N*		10		25		2800	0.323		
KQT0402T**11N*		11			24	2720	0.214	340	
KQT0402T**12N*		12		24		2700	0.322		
KQT0402T**13N*		13			25	2480	0.298	320	
KQT0402T**15N*		15		24		2400	0.354		
KQT0402T**16N*		16			25	2320	0.393	300	
KQT0402T**18N*		18		24		2300	0.550	320	
KQT0402T**19N*		19			25	2240	0.560	300	
KQT0402T**20N*		20		24		2200	0.620	320	
KQT0402T**22N*		22			20	2200	0.810	300	
KQT0402T**23N*		23		25		2100	0.830	150	
KQT0402T**24N*		24			25		0.835	240	
KQT0402T**27N*		27		22		2800	1.170	200	
KQT0402T**30N*		30			22	2000	1.120		
KQT0402T**33N*		33		22		1800	1.810	140	
KQT0402T**34N*		34			22	1600	2.090	130	
KQT0402T**36N*		36		22		1500	2.320	120	
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								

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

** Add packaging code

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency (MHz)	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		0.11		
KQ0603TTE7N5*	H	7.5			28		4800	0.106	
KQ0603TTE8N2*	A	8.2		0.12					
KQ0603TTE8N7*	J	8.7		31	4600	0.109			
KQ0603TTE9N5*	B	9.5				0.125			
KQ0603TTE10N*	3	10		33	0.13				
KQ0603TTE11N*	K	11		35	4800	0.086			
KQ0603TTE12N*	4	12				0.13			
KQ0603TTE15N*	5	15		34	4000	0.17			
KQ0603TTE16N*	L	16				0.104			
KQ0603TTE18N*	6	18		35	3300	0.17			
KQ0603TTE22N*	7	22		38	3100	0.19			
KQ0603TTE23N*	S	23	37	3000	0.15				
KQ0603TTE24N*	M	24			0.135				
KQ0603TTE27N*	8	27	40	2700	0.22				
KQ0603TTE30N*	N	30	37	2800	0.144				
KQ0603TTE33N*	9	33			0.22				
KQ0603TTE36N*	P	36	40	2300	0.25				
KQ0603TTE39N*	0	39	38	2200					
KQ0603TTE43N*	Q	43	40	2000	0.28				
KQ0603TTE47N*	1	47	39						
KQ0603TTE51N*	T	51	200	38	200	0.30			
KQ0603TTE56N*	2	56				0.31			
KQ0603TTE68N*	3	68	37	1700	0.34				
KQ0603TTE72N*	4	72				0.49			
KQ0603TTE82N*	5	82	34	1400	0.54				
KQ0603TTER10*	6	100				0.58			
KQ0603TTER11*	7	110	150	1350	0.61				
KQ0603TTER12*	8	120				0.65			
KQ0603TTER15*	9	150	32	1300	1.4				
KQ0603TTER18*	0	180				160			
KQ0603TTER20*	U	200	25	1300	2.2				
KQ0603TTER21*	V	210				140			
KQ0603TTER22*	1	220	1200	2.3	130				
KQ0603TTER25*	W	250				2.5			
KQ0603TTER27*	2	270	1000	2.4	120				
KQ0603TTER30*	X	300				2.3			
KQ0603TTER33*	3	330	24	900	2.3				
KQ0603TTER39*	4	390				170			
KQ0603TTER47*	5	470	30	840	3.0				
KQ0603TTER51*	V	510				100			
KQ0603TTER56*	6	560	50	800	3.7				
KQ0603TTER62*	W	620				80			
			50	J: ±5% K: ±10%	30	50	640	1.21	190
							610	1.26	170
							560	2.09	130
							590	1.89	150

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

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applications and ratings (continued)

inductors

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency (MHz)	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)		
KQ0603TTER68*	7	680	50	J: ±5% K: ±10%	30	50	540	1.97	140		
KQ0603TTER72*	C	720					530	2.04	130		
KQ0603TTER75*	X	750					490	3.09	110		
KQ0603TTER82*	8	820					480	2.95	120		
KQ0603TTER91*	Y	910					440	5.13	90		
KQ0603TTE1R0*	9	1000					400	5.45	80		
KQ0603TTE1R2*	0	1200									
KQ0805TTE3N3*	0	3.3	250	J: ±5% K: ±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				55	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	60	500	1650	0.34					
KQ0805TTE43N*	4	43			1550	0.34					
KQ0805TTE47N*	0	47			1450	0.38					
KQ0805TTE56N*	1	56			1300	0.42					
KQ0805TTE68N*	2	68	65	500	1200	0.46					
KQ0805TTE82N*	3	82			1100	0.51					
KQ0805TTER10*	4	100	150	G: ±2% J: ±5% K: ±10%	50	920	0.56	400			
KQ0805TTER12*	5	120				870	0.64				
KQ0805TTER15*	6	150				50	250		850	0.70	
KQ0805TTER16*	H	160							48	650	1.0
KQ0805TTER17*	J	170									600
KQ0805TTER18*	7	180							560	1.5	290
KQ0805TTER19*	D	190				33	100	375	1.76	250	
KQ0805TTER20*	E	200						340	1.9	230	
KQ0805TTER21*	F	210				25	J: ±5% K: ±10%	23	188	2.2	190
KQ0805TTER22*	8	220							200	2.3	
KQ0805TTER23*	K	230	215	2.35	180						
KQ0805TTER24*	L	240	50	J: ±5% K: ±10% M: ±20%	50				4100	0.08	1000
KQ0805TTER25*	G	250							3300	0.09	
KQ0805TTER27*	9	270							3000	0.10	
KQ0805TTER33*	0	330							2500	0.11	
KQ0805TTER39*	1	390	55	350	2400	0.12					
KQ0805TTER47*	2	470			1600	0.13					
KQ0805TTER56*	3	560	60	1600	0.14						
KQ0805TTER68*	4	680									
KQ0805TTER72*	A	720									
KQ0805TTER82*	5	820									
KQ1008TTE10N*	10N	10	50	J: ±5% K: ±10% M: ±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			
KQ1008TTE22N*	22N	22			55	350	2400	0.12			
KQ1008TTE27N*	27N	27					1600	0.13			
KQ1008TTE33N*	33N	33			60	1600	0.14				

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

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applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency (MHz)	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: ±5%, K: ±10% M: ±20%	60	350	1500	0.15	1000
KQ1008TTE47N*	47N	47			65		1300	0.16	
KQ1008TTE56N*	56N	56			60		1000	0.18	
KQ1008TTE68N*	68N	68			60		950	0.20	
KQ1008TTE82N*	82N	82			60		1000	0.22	
KQ1008TTER10*	R10	100	25	G: ±2% J: ±5% K: ±10%	45	100	850	0.56	650
KQ1008TTER12*	R12	120					950	0.63	
KQ1008TTER15*	R15	150					850	0.70	
KQ1008TTER18*	R18	180					750	0.77	
KQ1008TTER22*	R22	220					700	0.84	
KQ1008TTER27*	R27	270					600	0.91	
KQ1008TTER33*	R33	330					570	1.05	
KQ1008TTER39*	R39	390					500	1.12	
KQ1008TTER47*	R47	470					450	1.19	
KQ1008TTER56*	R56	560					415	1.33	
KQ1008TTER62*	R62	620					375	1.40	
KQ1008TTER68*	R68	680					360	1.47	
KQ1008TTER75*	R75	750					350	1.54	
KQ1008TTER82*	R82	820					320	1.61	
KQ1008TTER91*	R91	910					320	1.68	
KQ1008TTE1R0*	1R0	1000	7.9	G: ±2% J: ±5% K: ±10%	35	50	290	1.75	250
KQ1008TTE1R2*	1R2	1200					250	1.6	
KQ1008TTE1R5*	1R5	1500					200	1.7	
KQ1008TTE1R8*	1R8	1800					160	1.9	
KQ1008TTE2R2*	2R2	2200					140	2.2	
KQ1008TTE2R7*	2R7	2700					110	2.3	
KQ1008TTE3R3*	3R3	3300					100	2.7	
KQ1008TTE3R9*	3R9	3900					100	2.8	
KQ1008TTE4R7*	4R7	4700					90	3.1	
KQ1008TTE5R6*	5R6	5600					80	2.5	
KQ1008TTE6R8*	6R8	6800	15	7.9	70	2.8	240		
KQ1008TTE8R2*	8R2	8200			65	3.0	170		
KQ1008TTE100*	100	10000			60	3.4	150		

Inductors

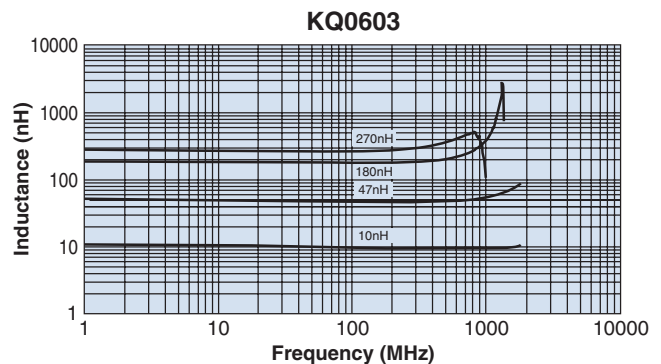
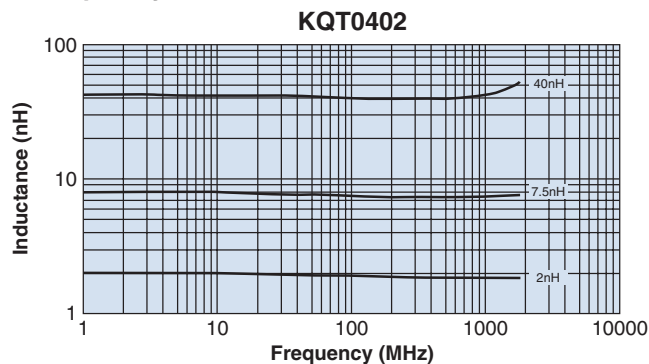
* Add tolerance character (C, G, H, J, K, M)

Operating Temperature Range: -40°C ~ +125°C

The operating temperature range of the coil (ambient temperature + self heating) must remain at +125°C or less

environmental applications

L-Frequency Characteristics

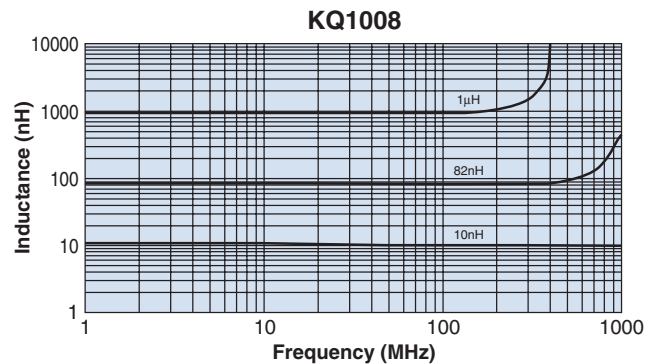
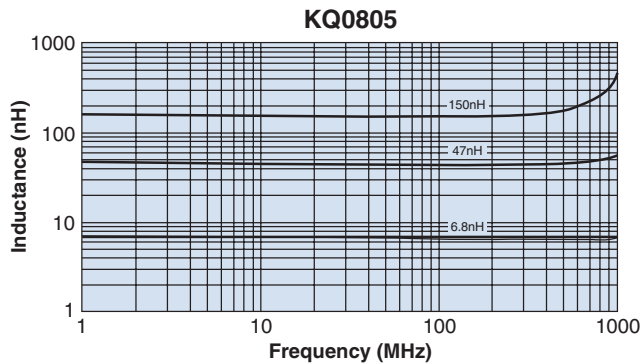


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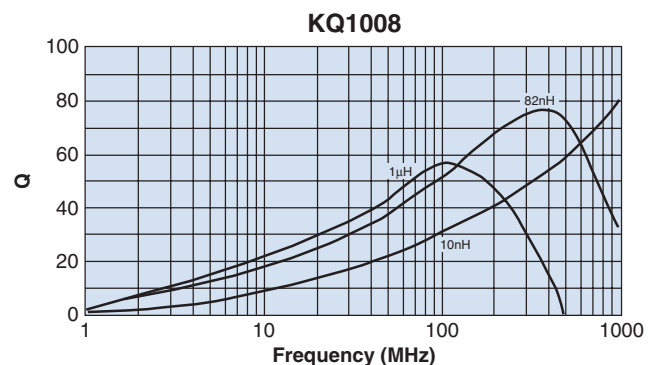
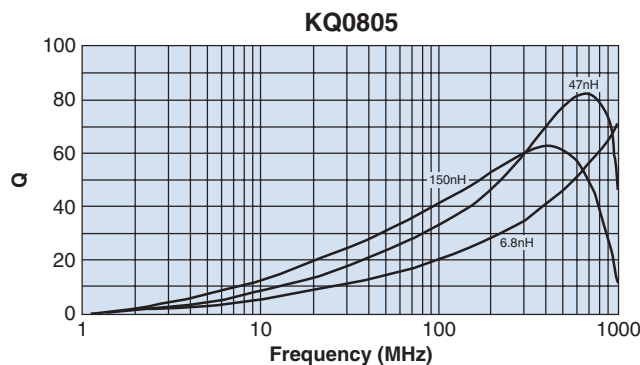
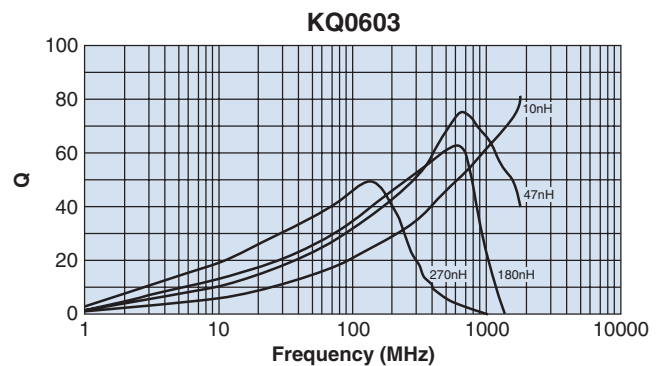
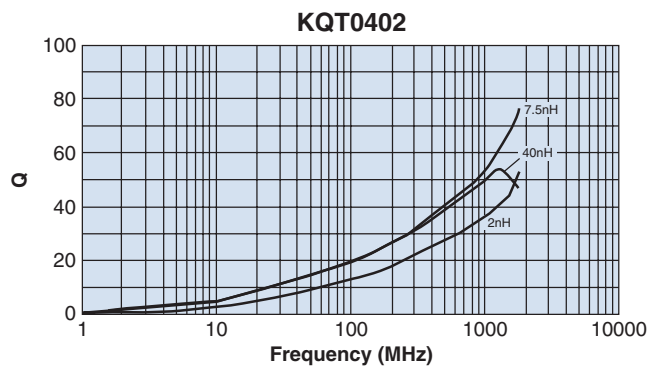
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environmental applications (continued)

L-Frequency Characteristics



Q-Frequency Characteristics



Test equipment: HP4291A impedance analyzer

Performance Characteristics

Parameter	Requirements Maximum Limit	Δ L/L Δ Q/Q		Test Method
		Typical		
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

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