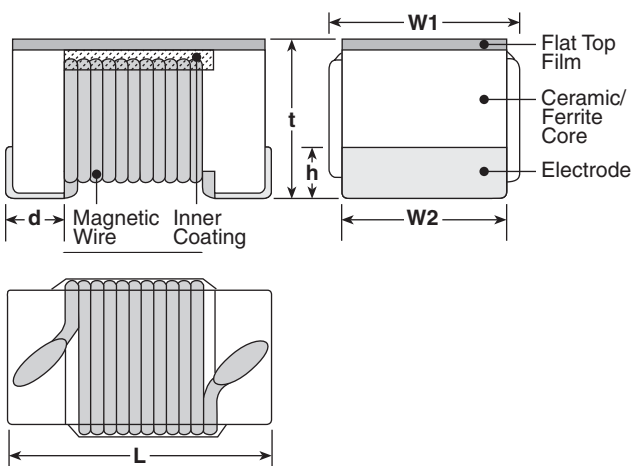


### features

- 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
- Marking: White body color with no marking (0402)  
Black body color with white marking (0603, 0805, 1008)
- Products with lead-free terminations meet EU RoHS requirements
- AEC-Q200 Qualified

Inductors

### 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 <sup>+008</sup> <sub>-0</sub> (1.8 <sup>+0.2</sup> <sub>-0</sub> )	.018±.006 (0.45±0.15)	.018±.004 (0.45±0.1)

### ordering information

New Part #	<b>KQ</b>	<b>1008</b>	<b>T</b>	<b>TE</b>	<b>10N</b>	<b>J</b>
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 Inductance 3 digits: 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 (MHz)	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum ( $\Omega$ )	Allowable DC Current Maximum (mA)				
KQT0402T**1N0*	—	1.0	250	B: $\pm 0.1$ nH C: $\pm 0.2$ nH	16	250	11000	0.045	1360				
KQT0402T**1N9*		1.9					19	9600	0.070	1040			
KQT0402T**2N0*		2.0						18	8000	0.068	960		
KQT0402T**2N2*		2.2								0.120	700		
KQT0402T**2N4*		2.4							17	7200	0.066	840	
KQT0402T**2N7*		2.7			19						6000	0.091	800
KQT0402T**3N3*		3.3					18	5800	0.083	760			
KQT0402T**3N6*		3.6							20	4800		0.086	680
KQT0402T**3N9*		3.9										5800	
KQT0402T**4N3*		4.3								22		4400	0.150
KQT0402T**4N7*		4.7		4200		0.104						680	
KQT0402T**5N1*		5.1		20		4160	0.150	650					
KQT0402T**5N6*		5.6				4000	0.195	480					
KQT0402T**6N2*		6.2		21		3900	0.120	640					
KQT0402T**6N8*		6.8				24	3680	0.200	560				
KQT0402T**7N5*		7.5		25	3600		0.230	500					
KQT0402T**8N2*		8.2			24		3450	0.202	480				
KQT0402T**8N7*		8.7		25			3280	0.250	450				
KQT0402T**9N0*		9.0			24		3100	0.323	400				
KQT0402T**9N5*		9.5		25			3040	0.214					
KQT0402T**10N*		10			24		3000	0.322					
KQT0402T**11N*		11		25			2800	0.298					
KQT0402T**12N*		12			24		2720	0.354					
KQT0402T**13N*		13		25			2700	0.393					
KQT0402T**15N*		15			24	2480	0.550	340					
KQT0402T**16N*		16		25		2400	0.560	320					
KQT0402T**18N*		18			24	2320	0.550	300					
KQT0402T**19N*		19		25		2300	0.620	320					
KQT0402T**20N*		20			24	2240	0.810	300					
KQT0402T**22N*		22		20		2200	0.830	150					
KQT0402T**23N*		23			25	2100	0.835	240					
KQT0402T**24N*		24		24		2800	1.170	200					
KQT0402T**27N*		27			22	2000	1.120						
KQT0402T**30N*		30		25		1800	1.810	140					
KQT0402T**33N*		33			24	1600	2.090	130					
KQT0402T**34N*		34		25		1500	2.320	120					
KQT0402T**36N*		36			24								
KQT0402T**39N*		39		25									
KQT0402T**40N*		40			24								
KQT0402T**43N*		43		25									
KQT0402T**47N*	47	20											
KQT0402T**51N*	51		25										
KQT0402T**56N*	56	22											
KQT0402T**68N*	68		25										
KQT0402T**82N*	82	24											
KQT0402T**R10*	100		25										
KQT0402T**R12*	120	22											

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

\*\* Add packaging code

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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 ( $\Omega$ )	Allowable DC Current Maximum (mA)
KQ0603TTE1N6*	C	1.6	250	J: $\pm 5\%$ K: $\pm 10\%$	24	250	12500	0.03	700
KQ0603TTE1N8*	0	1.8			16			0.045	
KQ0603TTE3N3*	X	3.3			22		0.055		
KQ0603TTE3N6*	E	3.6					6900	0.063	
KQ0603TTE3N9*	1	3.9			5900		0.08		
KQ0603TTE4N3*	F	4.3			20		0.063		
KQ0603TTE4N7*	G	4.7					5800	0.116	
KQ0603TTE5N1*	Y	5.1			0.115				
KQ0603TTE6N8*	2	6.8			27		0.11		
KQ0603TTE7N5*	H	7.5			28		0.106		
KQ0603TTE8N2*	A	8.2		4800			0.12		
KQ0603TTE8N7*	J	8.7		4600	0.109				
KQ0603TTE9N5*	B	9.5		31	0.125				
KQ0603TTE10N*	3	10			4800		0.13		
KQ0603TTE11N*	K	11		33	0.086				
KQ0603TTE12N*	4	12		35	0.13				
KQ0603TTE15N*	5	15			4000		0.17		
KQ0603TTE16N*	L	16		34	0.104				
KQ0603TTE18N*	6	18		35	0.17				
KQ0603TTE22N*	7	22		38	0.19				
KQ0603TTE23N*	S	23	37	0.15					
KQ0603TTE24N*	M	24		2700	0.135				
KQ0603TTE27N*	8	27	40	0.22					
KQ0603TTE30N*	N	30	37	0.144					
KQ0603TTE33N*	9	33	40	0.22					
KQ0603TTE36N*	P	36	38	0.25					
KQ0603TTE39N*	0	39	40		2080				
KQ0603TTE43N*	Q	43	39	2200					
KQ0603TTE47N*	1	47	38	2000	0.28				
KQ0603TTE51N*	T	51		200	1900	0.30			
KQ0603TTE56N*	2	56	37		0.31				
KQ0603TTE68N*	3	68	34	0.34					
KQ0603TTE72N*	4	72		1700	0.49				
KQ0603TTE82N*	5	82	150	0.54					
KQ0603TTER10*	6	100		1400	0.58				
KQ0603TTER11*	7	110	32	1350	0.61				
KQ0603TTER12*	8	120		1300	0.65				
KQ0603TTER15*	9	150	1400	1.4					
KQ0603TTER18*	0	180	1300	2.2					
KQ0603TTER20*	U	200		130					
KQ0603TTER21*	V	210	25	1200	2.3				
KQ0603TTER22*	1	220			2.5				
KQ0603TTER25*	W	250	100	1000	2.4				
KQ0603TTER27*	2	270			24	2.3			
KQ0603TTER30*	X	300	30	100	170				
KQ0603TTER33*	3	330			840	3.17			
KQ0603TTER39*	4	390	50	50	100				
KQ0603TTER47*	5	470			800	3.0			
KQ0603TTER51*	V	510	50	50	700	3.7			
KQ0603TTER56*	6	560			640	1.21			
KQ0603TTER62*	W	620	610	1.26					
			560	2.09					
			590	1.89					
					190				
					170				
					130				

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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 ( $\Omega$ )	Allowable DC Current Maximum (mA)					
NEW KQ0603TTER68*	7	680	50	J: $\pm 5\%$ K: $\pm 10\%$	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	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	500						
KQ0805TTE18N*	5	18				3300	0.20							
KQ0805TTE20N*	Y	20				55	2600		0.22					
KQ0805TTE22N*	6	22					2500		0.25					
KQ0805TTE27N*	7	27				60	2050		0.27					
KQ0805TTE33N*	8	33					2000		0.29					
KQ0805TTE39N*	9	39	200	60	500	2000	0.29	500						
KQ0805TTE43N*	4	43				1650	0.34							
KQ0805TTE47N*	0	47				1550	0.34							
KQ0805TTE56N*	1	56				1450	0.38							
KQ0805TTE68N*	2	68				1300	0.42							
KQ0805TTE82N*	3	82				1200	0.46							
KQ0805TTE10*	4	100				65	1100		0.51					
KQ0805TTE12*	5	120	920	0.56										
KQ0805TTER15*	6	150	100	G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$	50	250	870	0.64	400					
KQ0805TTER16*	H	160					50	250		850	0.70			
KQ0805TTER17*	J	170												
KQ0805TTER18*	7	180												
KQ0805TTER19*	D	190												
KQ0805TTER20*	E	200												
KQ0805TTER21*	F	210												
KQ0805TTER22*	8	220					48	250	850	0.70				
KQ0805TTER23*	K	230												
KQ0805TTER24*	L	240												
KQ0805TTER25*	G	250												
KQ0805TTER27*	9	270	50	J: $\pm 5\%$ K: $\pm 10\%$	33	100	650	1.0	350					
KQ0805TTER33*	0	330					600	1.4		310				
KQ0805TTER39*	1	390					560	1.5		290				
KQ0805TTER47*	2	470					375	1.76		250				
KQ0805TTER56*	3	560					340	1.9		230				
KQ0805TTER68*	4	680					25	J: $\pm 5\%$ K: $\pm 10\%$		23	50	188	2.2	190
NEW KQ0805TTER72*	A	720										200	2.3	
KQ0805TTER82*	5	820	215	2.35	180									
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			55	350	2500	0.11						
KQ1008TTE22N*	22N	22					2400	0.12						
KQ1008TTE27N*	27N	27					1600	0.13						
KQ1008TTE33N*	33N	33			60	350	1600	0.14						
KQ1008TTE39N*	39N	39					1500	0.15						

\* Add tolerance character (C, G, H, J, K, M) For complete environmental specifications, please refer to [www.koaspeer.com](http://www.koaspeer.com)  
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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)
KQ1008TTE47N*	47N	47	50	G: ±2% J: ±5% K: ±10%	65	350	1500	0.16	1000
KQ1008TTE56N*	56N	56					1300	0.18	
KQ1008TTE68N*	68N	68					1000	0.20	
KQ1008TTE82N*	82N	82					950	0.22	
KQ1008TTER10*	R10	100	25		60	100	850	0.56	650
KQ1008TTER12*	R12	120					750	0.63	
KQ1008TTER15*	R15	150					700	0.70	
KQ1008TTER18*	R18	180					600	0.77	
KQ1008TTER22*	R22	220			45	100	570	0.84	500
KQ1008TTER27*	R27	270					500	0.91	
KQ1008TTER33*	R33	330					450	1.05	
KQ1008TTER39*	R39	390					415	1.12	
KQ1008TTER47*	R47	470					375	1.19	
KQ1008TTER56*	R56	560					360	1.33	
KQ1008TTER62*	R62	620					350	1.40	
KQ1008TTER68*	R68	680					320	1.47	
KQ1008TTER75*	R75	750			35	50	360	1.54	360
KQ1008TTER82*	R82	820					290	1.61	
KQ1008TTER91*	R91	910					250	1.68	
KQ1008TTE1R0*	1R0	1000					200	1.75	
KQ1008TTE1R2*	1R2	1200	28		50	160	1.6	310	
KQ1008TTE1R5*	1R5	1500				140	1.7		
KQ1008TTE1R8*	1R8	1800	22		25	110	1.9	270	
KQ1008TTE2R2*	2R2	2200				100	2.2		
KQ1008TTE2R7*	2R7	2700				90	2.3		
KQ1008TTE3R3*	3R3	3300				80	2.7		
KQ1008TTE3R9*	3R9	3900	20		25	70	2.8	250	
KQ1008TTE4R7*	4R7	4700				65	3.1		
KQ1008TTE5R6*	5R6	5600	15		7.9	240	2.5	210	
KQ1008TTE6R8*	6R8	6800				200	2.8		
KQ1008TTE8R2*	8R2	8200				170	3.0		
KQ1008TTE100*	100	10000				150	3.4		

\* 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

Performance Characteristics

Parameter	Requirements Maximum Limit	Δ L/L Δ Q/Q Typical	Test Method
Resistance to Soldering Heat	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±2.7% Δ Q/Q: ±6.6%	260°C ± 5°C, 10s ± 1s
Rapid Change of Temperature	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±2.1% Δ Q/Q: ±5.3%	-40°C (30min.)/ +125°C (30min.) 100 cycles
Low Temperature Exposure	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±1.8% Δ Q/Q: ±2.8%	-40°C ± 2°C, 1000h
High Temperature Exposure	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±1.8% Δ Q/Q: ±5.3%	125°C ± 2°C, 1000h
Moisture Exposure	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±0.9% Δ Q/Q: ±6.9%	40°C ± 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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