

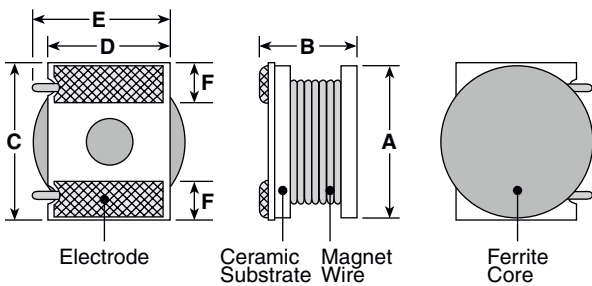
**features**

- Small size allows for high mounting density
- Operating temperature: LPC9040E: -40°C ~ +125°C, all others: -40°C ~ +85°C
- Large DC current capacity with low DC resistance
- Polarity identification available
- E-6 series of values (customs available)
- Marking: Black body color with no marking
- Products with lead-free terminations meet EU RoHS requirements
- AEC-Q200 Qualified (LPC4045 only)

Inductors

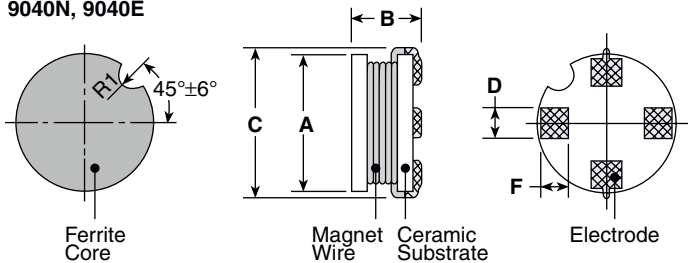
**dimensions and construction**

4045, 10065, 12065



Size	Dimensions inches (mm)					
	A	B	C	D	E	F
4045	0.157±.008 (ø4.0±0.2)	.169±.009 (4.3±0.2)	.177±.008 (4.5±0.2)	.118±.008 (3.0±0.2)	.138 (3.5)	.039±.112 (1.0±0.3)
10065	0.394±.008 (ø10.0±0.2)	.295 Max. (7.5 Max.)	.409±.008 (10.4±0.2)	.315±.008 (8.0±0.2)	.354 (9.0)	.098±.008 (2.5±0.2)
12065	0.472±.008 (ø12.0±0.2)	.295 Max. (7.5 Max.)	.488±.008 (12.4±0.2)	.472±.008 (10.0±0.2)	.433 (11.0)	.146±.112 (3.7±0.3)

9040N, 9040E



Size	Dimensions inches (mm)				
	A	B	C	D	F
9040N	0.354±.004 (ø9.0±0.1)	.193 Max. (4.9 Max.)	.402 Max. (10.2 Max.)	.071±.008 (1.8±0.2)	.079±.008 (2.0±0.2)
9040E					

**ordering information**

New Part #	LPC	4045	A	TED	101	K
Type		Size	Termination Material	Packaging	Nominal Inductance	Tolerance
		4045 9040N 9040E 10065 12065	A: SnAg	TED: 10" embossed plastic	101: 100µH 221: 220µH 152: 1500µH	K: ±10% M: ±20% N: ±30%

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

## applications and ratings

Part Designation	Nominal Inductance (μH)	Inductance Tolerance	Quality Factor Minimum (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (Amps)	Measured Frequency	
LPC4045ATED1R0M	1.0	M: ±20%	20	90.0	0.015	3.10	1 kHz	
LPC4045ATED1R5M	1.5			70.0	0.020	2.80		
LPC4045ATED2R2M	2.2			55.0	0.023	2.50		
LPC4045ATED3R3M	3.3			45.0	0.044	1.80		
LPC4045ATED4R7M	4.7			35.0	0.062	1.45		
LPC4045ATED6R8M	6.8			25.0	0.075	1.30		
LPC4045ATED100K	10	K: ±10%	20	23.5	0.10	1.02		
LPC4045ATED150K	15			18.5	0.15	0.84		
LPC4045ATED220K	22			14.0	0.21	0.70		
LPC4045ATED330K	33			12.0	0.41	0.52		
LPC4045ATED470K	47			10.5	0.52	0.46		
LPC4045ATED680K	68			8.0	0.67	0.40		
LPC4045ATED101K	100		40	6.3	0.92	0.28		
LPC4045ATED151K	150			5.2	1.80	0.25		
LPC4045ATED221K	220			3.9	2.25	0.18		
LPC4045ATED331K	330			3.0	4.27	0.15		
LPC4045ATED471K	470			2.7	5.23	0.14		
LPC4045ATED681K	680			2.2	6.67	0.12		
LPC9040NATED100M	10	M: ±20%	40	25.0	0.07	1.55	10 kHz	
LPC9040NATED150K	15	K: ±10%	30	21.0	0.09	1.40		
LPC9040NATED220K	22			15.0	0.11	1.25		
LPC9040NATED330K	33			13.5	0.14	1.10		
LPC9040NATED470K	47		20	11.5	0.20	0.99		
LPC9040NATED680K	68			10.0	0.27	0.91		
LPC9040NATED101K	100			8.0	0.41	0.70		
LPC9040NATED151K	150	10	7.0	0.55	0.60			
LPC9040NATED221K	220		5.0	0.81	0.50			
LPC9040NATED331K	330		3.3	1.86	0.29			
LPC9040NATED471K	470		2.8	2.07	0.22			
LPC9040NATED681K	680		1.2	2.65	0.14			
LPC9040EATED100M	10		M: ±20%	40	25.0	0.07		2.40
LPC9040EATED150K	15	K: ±10%	30	21.0	0.09	2.20		
LPC9040EATED220K	22			15.0	0.11	2.00		
LPC9040EATED330K	33			13.5	0.14	1.80		
LPC9040EATED470K	47		20	11.5	0.20	1.40		
LPC9040EATED680K	68			10.0	0.27	1.20		
LPC9040EATED101K	100			8.0	0.41	1.00		
LPC9040EATED151K	150	10	7.0	0.55	0.80			
LPC9040EATED221K	220		5.0	0.81	0.60			
LPC9040EATED331K	330		3.3	1.86	0.45			
LPC9040EATED471K	470		2.8	2.07	0.40			
LPC9040EATED681K	680		1.2	2.65	0.35			
LPC10065ATEDR68M	0.68		M: ±20%	40	75.0	0.006	9.50	L Meas. Freq. 1 MHz  Q Meas. Freq. 2.52 MHz
LPC10065ATED1R0M	1.0	65.0			0.007	9.00		
LPC10065ATED1R5M	1.5	50.0			0.008	8.50		
LPC10065ATED2R2M	2.2	40.0			0.009	7.50		
LPC10065ATED3R3M	3.3	30.0			0.012	6.80		
LPC10065ATED4R7M	4.7	25.0			0.017	5.70		
LPC10065ATED6R8M	6.8	K: ±10%	20	20.0	0.024	4.70		
LPC10065ATED100K	10			15.0	0.036	3.90		
LPC10065ATED150K	15			12.0	0.054	3.15		
LPC10065ATED220K	22		15	9.0	0.080	2.60		
LPC10065ATED330K	33			8.0	0.120	2.30		
LPC10065ATED470K	47			6.0	0.175	1.79		

LPC9045E only: operating temperature range: -40°C to +125°C. The operating temperature range of the coil (ambient temperature + self heating) must remain at +125°C or less

All others: -40°C to +85°C. The operating temperature range of the coil (ambient temperature + self heating) must remain at +85°C or less

## applications and ratings (continued)

Part Designation	Nominal Inductance (μH)	Inductance Tolerance	Quality Factor Minimum (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (Amps)	Measured Frequency (Hz)
LPC10065ATED680K	68	K: ±10%	30	5.0	0.255	1.48	100 MHz
LPC10065ATED101K	100			4.0	0.380	1.22	
LPC10065ATED151K	150			3.0	0.580	1.00	
LPC10065ATED221K	220			2.5	0.850	0.82	
LPC10065ATED331K	330			2.0	1.30	0.67	
LPC10065ATED471K	470			1.5	1.85	0.57	
LPC10065ATED681K	680			1.0	2.70	0.47	
LPC10065ATED102K	1000			0.95	4.00	0.38	
LPC10065ATED152K	1500			0.85	6.10	0.31	
LPC10065ATED222K	2200			0.70	9.00	0.26	
LPC10065ATED332K	3300			0.55	13.5	0.21	
LPC12065ATEDR68N	0.68	N: ±30%	40	77.0	0.005	10.0	2.52 MHz
LPC12065ATED1R0N	1.0			60.0	0.007	9.50	
LPC12065ATED1R5N	1.5			47.0	0.008	9.00	
LPC12065ATED2R2N	2.2			38.0	0.010	8.00	
LPC12065ATED3R3M	3.3	M: ±20%	30	30.0	0.012	7.00	
LPC12065ATED4R7M	4.7			24.0	0.016	6.50	
LPC12065ATED6R8M	6.8			19.0	0.022	5.40	
LPC12065ATED100K	10			15.0	0.031	4.50	
LPC12065ATED150K	15			12.0	0.046	3.63	
LPC12065ATED220K	22	K: ±10%	15	9.5	0.065	3.00	
LPC12065ATED330K	33			7.5	0.093	2.40	
LPC12065ATED470K	47			6.2	0.130	2.05	
LPC12065ATED680K	68			4.9	0.182	1.70	
LPC12065ATED101K	100			4.0	0.260	1.38	
LPC12065ATED151K	150			3.2	0.380	1.14	
LPC12065ATED221K	220			2.5	0.540	0.94	
LPC12065ATED331K	330			2.0	0.790	0.77	
LPC12065ATED471K	470			1.6	1.08	0.65	
LPC12065ATED681K	680			1.3	1.55	0.53	
LPC12065ATED102K	1000	30	1.0	2.21	0.44		
LPC12065ATED152K	1500		0.83	3.20	0.35		
LPC12065ATED222K	2200		0.67	4.60	0.29		
LPC12065ATED332K	3300		0.53	6.60	0.23		
LPC12065ATED472K	4700		0.43	9.30	0.19		
LPC12065ATED682K	6800	0.34	13.2	0.16			

LPC9045E only: operating temperature range: -40°C to +125°C. The operating temperature range of the coil (ambient temperature + self heating) must remain at +125°C or less

All others: -40°C to +85°C. The operating temperature range of the coil (ambient temperature + self heating) must remain at +85°C or less

## environmental applications

### Performance Characteristics

Parameter	Performance Requirements ΔL/L		Test Method
	Limit	Typical	
High Temperature Exposure	±5%	±1.3%	LPC4045, LPC9040N, LPC10065, LPC12065: +85°C ± 2°C, 500 hours LPC9040E: +125°C ± 2°C, 500 hours
Low Temperature Exposure	±5%	±1.3%	-40°C±2°C, 500 hours
Moisture Exposure	±5%	±1.6%	+40°C, 90 - 95% RH, 500 hours
Heat Shock	±5%	±1.3%	LPC4045, LPC9040N, LPC10065, LPC12065: -40°C (30 minutes)/ +85°C (30 minutes), 100 cycles LPC9040E: -40°C (30 minutes)/+125°C (30 minutes), 100 cycles

### Coil Temperature

	LPC4045/LPC9040N/ LPC10065/LPC12065	LPC9040E
Coil Temperature Rise ΔT	+20°C	+40°C
Inductance Change Ratio ΔL/L	-10%	-10%

Surface Temperature Rise graphs and additional environmental applications can also be found at [www.koaspeer.com](http://www.koaspeer.com)

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

12/01/14