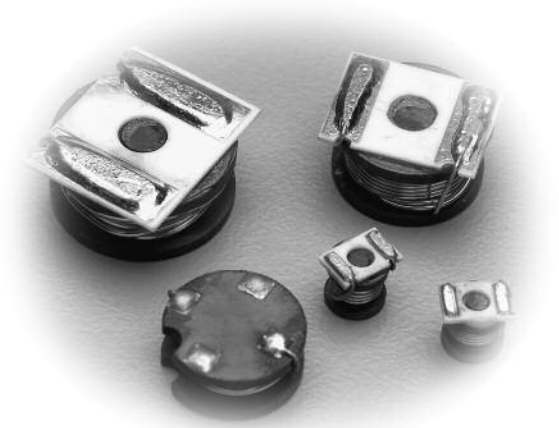
KOA SPEER ELECTRONICS, INC.

LPC

choke coil inductor

EU RoHS COMPLIANT

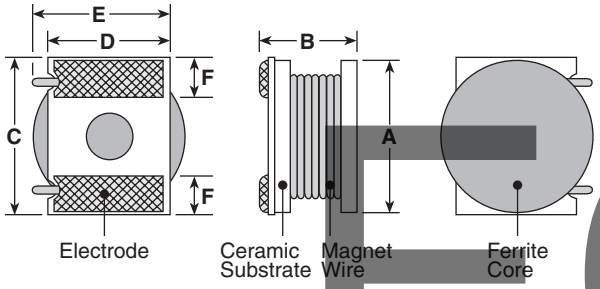


features

- Small size allows for high mounting density
- Operating temperature: -40°C ~ +85°C
- Large DC current capacity with low DC resistance
- Polarity identification available
- E-6 series of values (customs available)
- Products with lead-free terminations meet EU RoHS requirements
- AEC-Q200 Qualified (LPC4045 only)

dimensions and construction

4045, 10065, 12065



Size	Dimensions inches (mm) A	B	C	D	E	F
4045	ø.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	ø.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	ø.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)

*NOT RECOMMENDED FOR NEW DESIGN

ordering information

LPC	4045	A	TED	101	K
Type	Size	Termination Material	Packaging	Nominal Inductance	Tolerance
	4045 *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.

*NOT RECOMMENDED FOR NEW DESIGN

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%		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			6.3	0.92	0.28	
LPC4045ATED151K	150		40	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	

12/20/17

applications and ratings (continued)

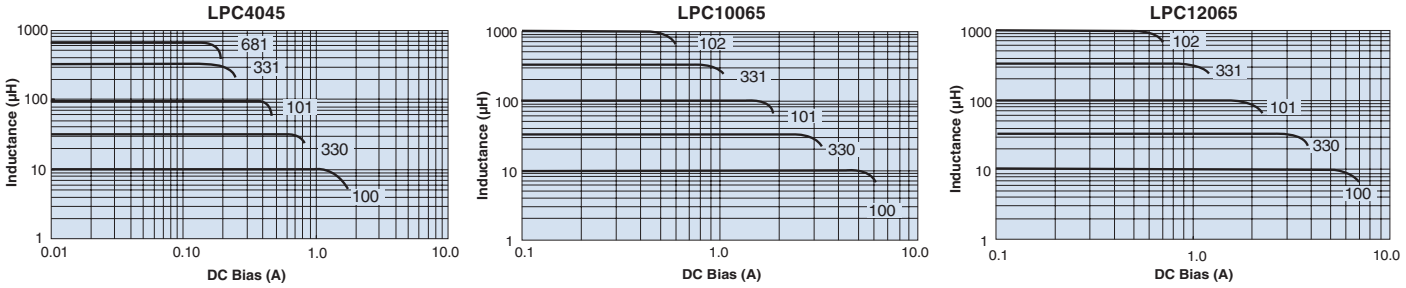
Part Designation	Nominal Inductance (µH)	Inductance Tolerance	Quality Factor Minimum (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (Amps)	Measured Frequency
*LPC10065ATEDR68M	0.68	M: ±20%	40	75.0	0.006	9.50	L Meas. Freq. 1 MHz Q Meas. Freq. 2.52 MHz
*LPC10065ATED1R0M	1.0			65.0	0.007	9.00	
*LPC10065ATED1R5M	1.5			50.0	0.008	8.50	
*LPC10065ATED2R2M	2.2		30	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		20	20.0	0.024	4.70	
*LPC10065ATED100K	10	K: ±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	
*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	K: ±10%	20	12.0	0.046	3.63	
*LPC12065ATED220K	22			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		15	4.0	0.260	1.38	100 KHz
*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	

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

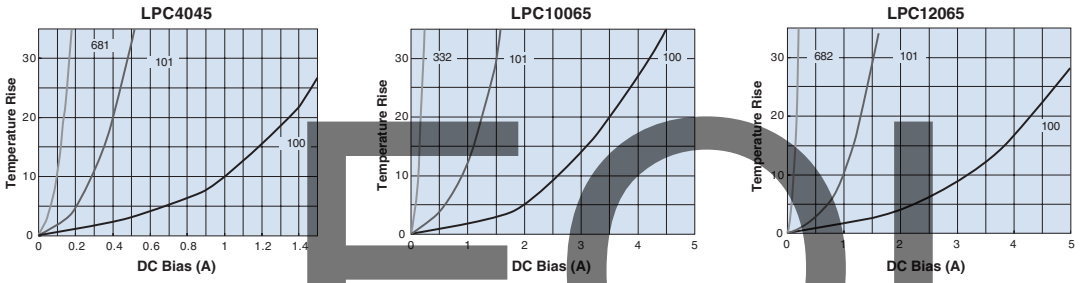
*NOT RECOMMENDED FOR NEW DESIGN

environmental applications

DC Bias Characteristics



Surface Temperature Rise



Performance Characteristics

Parameter	Performance Requirements ΔL/L		Test Method
	Limit	Typical	
High Temperature Exposure	±5%	±1.3%	+85°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%	-40°C (30 minutes)/+85°C (30 minutes), 100 cycles

Coil Temperature

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