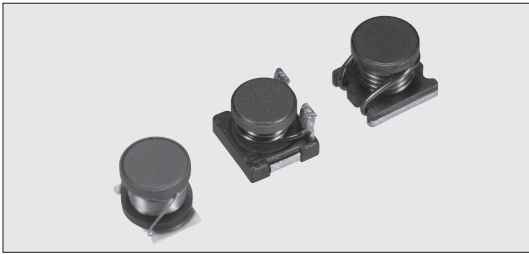


CHOKER COILS

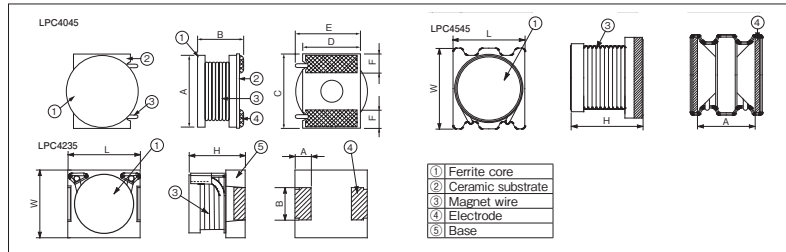


LPC4045·4235·4545 Power Chip Inductors

Chip Inductors



Construction



Features

- Low DC resistance and high allowable current are realized by the original construction and wiring technology.
- Automatic surface mounting is applicable.
- Excellent solderability and endurance environment.
- Suitable for reflow soldering.
- Products meet EU-RoHS requirements.
- AEC-Q200 qualified.

Applications

- Ideal for a variety of DC-DC converter inductor applications.

Dimensions

Type	Dimensions (mm)						Weight (g) (1000pcs)
	A	B	C±0.2	D±0.2	E	F	
LPC4045	φ4.0±0.2	4.3±0.2	4.5	3	(3.5)	(1.0±0.3)	210

Type	Dimensions (mm)					Weight (g) (1000pcs)
	L	W	H Max.	A	B	
LPC4235	4.5±0.2	4.2±0.2	3.5	1.0±0.2	2.0±0.2	165
LPC4545	4.1±0.3	4.6±0.4	4.6	3.2±0.3	—	230

Type Designation

Examples

LPC4235	T	TM	221	K
Product Code	Termination Surface Material	Taping	Nominal Inductance	Tolerance
LPC4045 LPC4235 LPC4545	A : SnAg (4045) T : Sn (4235) C : Sn/Cu (4545)	TM: Plastic embossed (4235) TE: Plastic embossed (4045·4545) BK: Bulk	3 digits	K : ±10% M : ±20%

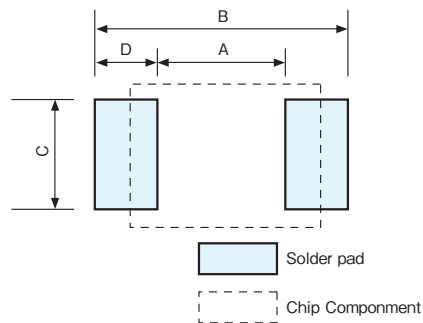
Performance

Test Items	Performance Requirements ΔL/L		Test Methods		
	Limit	Typical	LPC4045	LPC4235	LPC4545
Rapid change of temperature	± 5 %	± 1.3%	-40°C (30min)/+85°C (30min), 100cycles	-40°C (30min)/+125°C (30min), 100cycles	-40°C (30min)/+125°C (30min), 100cycles
Low temperature exposure	± 5 %	± 1.3%	-40°C, 500h	-40°C±2°C, 500h	-40°C±2°C, 1000h
High temperature exposure	± 5 %	± 1.3%	85°C, 500h	125°C±2°C, 500h	125°C±2°C, 1000h
Moisture endurance	± 5 %	± 1.6%	40°C±2°C, 90%~95%RH, 500h	40°C±2°C, 90~95%RH, 500h	85°C, 85%RH, 1000h

Recommended Pad Dimensions

Type	Dimensions (mm)			
	A	B	C	D
LPC4045	1.5	5.1	3.5	1.8
LPC4235	1.9	5.5	2.6	1.8
LPC4545	2.9	5.3	4.7	1.2

※These pad dimensions are only for standard pattern and the characteristics are not guaranteed, which you are suggested to confirm before use.



Ratings

LPC4045 Taping code and Q'ty/Reel:TE(2500pcs)

Type	Nominal Inductance (μH)	DC Resistance (Ω) Max.	Allowable DC Current (A) Max.	Self Resonant Frequency (MHz)
LPC4045ATE 1R0M	1.0	0.015	3.10	90.0
LPC4045ATE 1R5M	1.5	0.020	2.80	70.0
LPC4045ATE 2R2M	2.2	0.023	2.50	55.0
LPC4045ATE 3R3M	3.3	0.044	1.80	45.0
LPC4045ATE 4R7M	4.7	0.062	1.45	35.0
LPC4045ATE 6R8M	6.8	0.075	1.30	25.0
LPC4045ATE 100K	10	0.10	1.02	23.5
LPC4045ATE 150K	15	0.15	0.84	18.5
LPC4045ATE 220K	22	0.21	0.70	14.0
LPC4045ATE 330K	33	0.41	0.52	12.0
LPC4045ATE 470K	47	0.52	0.46	10.5
LPC4045ATE 680K	68	0.67	0.40	8.0
LPC4045ATE 101K	100	0.92	0.28	6.3
LPC4045ATE 151K	150	1.80	0.25	5.2
LPC4045ATE 221K	220	2.25	0.18	3.9
LPC4045ATE 331K	330	4.27	0.15	3.0
LPC4045ATE 471K	470	5.23	0.14	2.7
LPC4045ATE 681K	680	6.67	0.12	2.2

LPC4235 Taping code and Q'ty/Reel:TM(2000pcs)

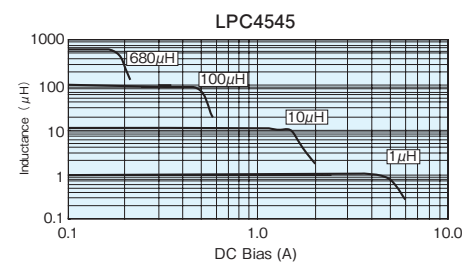
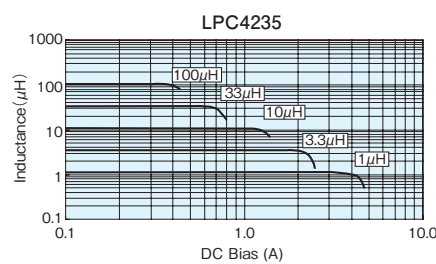
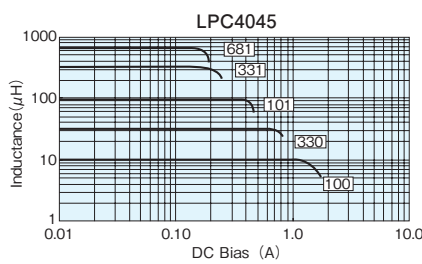
Type	Nominal Inductance (μH)	DC Resistance (Ω) Max.	Allowable DC Current (A) Max.	Self Resonant Frequency (MHz)
LPC4235TTM R82M	0.82	0.017	3.34	146.6
LPC4235TTM 1R0M	1.0	0.020	3.27	125.1
LPC4235TTM 1R2M	1.2	0.023	3.10	114.7
LPC4235TTM 1R5M	1.5	0.031	2.53	101.4
LPC4235TTM 2R2M	2.2	0.039	2.28	78.8
LPC4235TTM 3R3M	3.3	0.070	1.63	66.7
LPC4235TTM 4R7M	4.7	0.090	1.44	52.0
LPC4235TTM 6R8M	6.8	0.109	1.29	43.5
LPC4235TTM 100K	10	0.190	0.91	33.5
LPC4235TTM 150K	15	0.230	0.87	29.1
LPC4235TTM 220K	22	0.366	0.69	21.7
LPC4235TTM 330K	33	0.542	0.52	13.9
LPC4235TTM 470K	47	0.688	0.47	12.0
LPC4235TTM 680K	68	1.30	0.34	12.7
LPC4235TTM 101K	100	1.66	0.31	10.4
LPC4235TTM 151K	150	2.96	0.22	7.5
LPC4235TTM 221K	220	3.77	0.20	6.7

LPC4545 Taping code and Q'ty/Reel:TE(2500pcs)

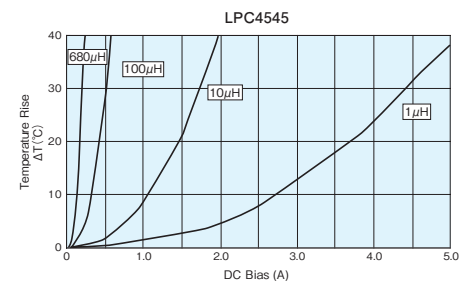
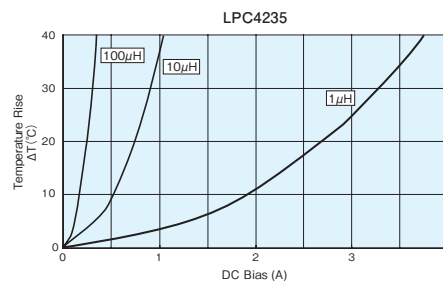
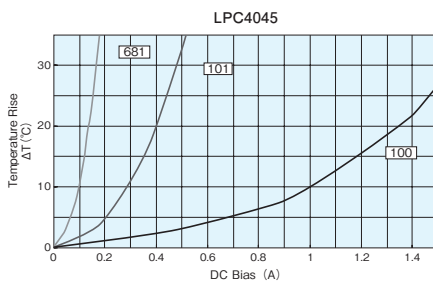
Type	Nominal Inductance (μH)	DC Resistance (Ω) Max.	Allowable DC Current (A) Max.	Self Resonant Frequency (MHz)
LPC4545CTE 1R0M	1.0	0.015	3.66	90
LPC4545CTE 1R5M	1.5	0.020	3.21	65
LPC4545CTE 2R2M	2.2	0.023	2.96	50
LPC4545CTE 3R3M	3.3	0.044	2.19	40
LPC4545CTE 4R7M	4.7	0.062	1.81	35
LPC4545CTE 6R8M	6.8	0.075	1.60	25
LPC4545CTE 100K	10	0.10	1.43	23
LPC4545CTE 150K	15	0.15	1.04	15
LPC4545CTE 220K	22	0.21	0.88	13
LPC4545CTE 330K	33	0.41	0.60	10
LPC4545CTE 470K	47	0.52	0.53	9.0
LPC4545CTE 680K	68	0.67	0.49	7.5
LPC4545CTE 101K	100	0.92	0.41	5.5
LPC4545CTE 151K	150	1.80	0.29	5.0
LPC4545CTE 221K	220	2.25	0.26	4.0
LPC4545CTE 331K	330	4.27	0.19	2.5
LPC4545CTE 471K	470	5.23	0.17	2.0
LPC4545CTE 681K	680	6.67	0.15	1.8
LPC4545CTE 152K	1500	17.04	0.10	1.3
LPC4545CTE 222K	2200	35.00	0.07	0.9

- Operating Temperature Range:
 -40°C ~ +85°C (4045)、-40°C ~ +125°C (4235·4545) (*Self-heating is included.)
 ※That the operating temperature upper limit temperature of the coil winding portions (ambient temperature+self-heating) is (+85°C(4045), +125°C(4235·4545)) or less.
 LPC4235 : Test report +155°C is available.
- Allowable current is a DC Current which causes initial inductance to decrease by 10%, or Coil temperature to rise by 20°C (4045), 40°C (4235·4545), whichever is smaller.

DC Bias Characteristics



Surface Temperature Rise



Precautions for Use

- Avoid strong pressure or excessive shock at mounting or after mounting because electric/magnetic characteristics may change if it is applied to the inductors.
- Due to the products using ferrite for coil bobbins, use them within each operating temperature range because the volume of generating heat varies depending on switching frequency.