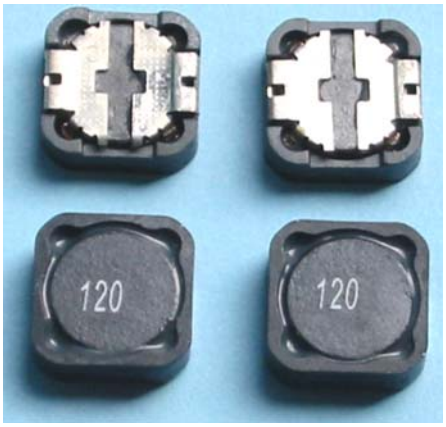
TCRH TYPE

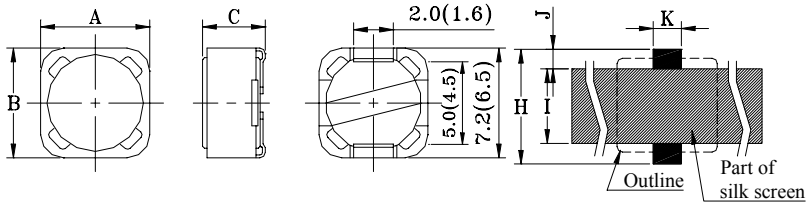
SMD POWER INDUCTOR



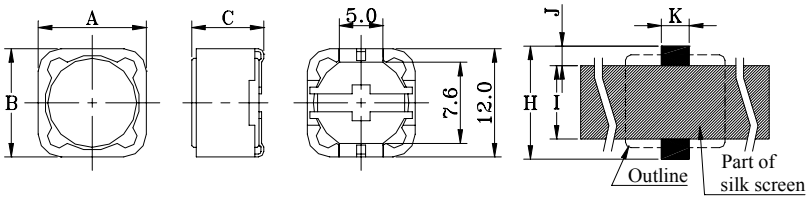
FEATURE:

- High current capacity;
- Magnetic shielded for low radiation;
- Ferrite bobbin core and compact size;
- Low core loss for high frequency power application.
- Large terminal surface for good PCB bonding.

SHAPES&DIMENSION FOR TCRH07xx(06xx) Unit:mm



SHAPES&DIMENSION FOR TCRH12xx Unit:mm



APPLICATION

- DC/DC converter
- Power supplies for:
  Protable communication equipment
- Camcorder
- LCD TV
- Notebook computer

Part No.	A	B	C	H	I	J	K
TCRH 0603	6.60±0.30	6.20±0.30	3.0MAX	8.0	4.8	2.0	1.5
TCRH 0605	6.60±0.30	6.20±0.30	5.0MAX	8.0	4.8	2.0	1.5
TCRH 0703	7.30±0.30	7.30±0.30	3.4MAX	8.0	4.8	2.0	2.8
TCRH 0704	7.30±0.30	7.30±0.30	4.5MAX	8.0	4.8	2.0	2.8
TCRH 1203	12.0±0.30	12.0±0.30	4.0±0.20	12.8	7.0	2.9	5.4
TCRH 1204	12.0±0.30	12.0±0.30	5.0MAX	12.8	7.0	2.9	5.4
TCRH 1205	12.0±0.30	12.0±0.30	6.0MAX	12.8	7.0	2.9	5.4
TCRH 1207	12.0±0.30	12.0±0.30	8.0MAX	12.8	7.0	2.9	5.4

PART NUMBERING SYSTEM:

TCRH □□ □□ - □□□ □

1 2 3 4 5

1) PRODUCT SYMBOL
2) OUTSIDE DIA :m/m
3) BODY HEIGHT :m/m
4) INDUCTANCE :μH
5) TOLERANCE :K 10%, L 15%, M 20%

TCRH TYPE

SMD POWER INDUCTOR

STANDARD SPECIFICATION

Part Inductance No.	L(μH)	DCR(Ω)Max. TCRH 0603	TCRH 0605	TCRH 0703	TCRH 0704	TCRH 1203	TCRH 1204	TCRH 1205	TCRH 1207	Rated D.C. Current(A)Max. TCRH 0603	TCRH 0605	TCRH 0703	TCRH 0704	TCRH 1203	TCRH 1204	TCRH 1205	TCRH 1207
1R2	1.2								0.007								9.8
1R3	1.3							0.012								8.0	
1R5	1.5																
2R1	2.1							0.014								7.0	
2R2	2.2																
2R4	2.4								0.012								8.0
2R9	2.9	0.068								1.94							
3R1	3.1							0.017								6.0	
3R5	3.5								0.014								7.5
3R9	3.9						0.015								6.5		
4R0	4.0	0.080								1.63							
4R4	4.4							0.02								5.0	
4R7	4.7						0.018		0.016						5.7		6.8
5R5	5.5	0.096								1.4							
5R8	5.8							0.021								4.4	
6R1	6.1								0.018								6.6
6R8	6.8						0.023								4.9		
7R5	7.5							0.024								4.2	
7R6	7.6								0.020								5.9
9R0	9.0					0.05								2.40			
100	10	0.15	0.12	0.072	0.049		0.028	0.025	0.022	1.1	1.35	1.68	1.84		4.5	4.0	5.4
120	12	0.20	0.13	0.098	0.058	0.054	0.038	0.027	0.025	1.0	1.22	1.52	1.71	2.25	4.0	3.5	4.9
150	15	0.23	0.18	0.13	0.081		0.050	0.030	0.027	0.9	1.11	1.33	1.47		3.2	3.3	4.5
180	18	0.27	0.24	0.14	0.091		0.057	0.034	0.04	0.8	1.02	1.20	1.31		3.1	3.0	3.9
220	22	0.34	0.27	0.19	0.11		0.066	0.036	0.044	0.74	0.91	1.07	1.23		2.9	2.8	3.6
270	27	0.38	0.30	0.21	0.15		0.080	0.051	0.046	0.66	0.82	0.96	1.12		2.8	2.3	3.4
330	33	0.45	0.33	0.24	0.17		0.097	0.057	0.065	0.59	0.74	0.91	0.96		2.7	2.1	3.0
390	39	0.49	0.37	0.32	0.23		0.132	0.068	0.073	0.54	0.69	0.77	0.91		2.1	2.0	2.8
470	47	0.69	0.52	0.36	0.26		0.15	0.075	0.10	0.50	0.62	0.46	0.88		1.9	1.8	2.5
560	56	0.78	0.56	0.47	0.35		0.19	0.11	0.11	0.46	0.58	0.68	0.75		1.8	1.7	2.35
680	68	1.07	0.63	0.52	0.38		0.22	0.12	0.14	0.42	0.51	0.61	0.69		1.5	1.5	2.10
820	82	1.21	0.71	0.69	0.43		0.26	0.14	0.16	0.38	0.46	0.57	0.61		1.3	1.4	1.95
101	100	1.39	1.03	0.79	0.61	0.061	0.308	0.16	0.22	0.34	0.42	0.50	0.60	2.00	1.2	1.3	1.70
121	120	1.90	1.15	0.89	0.66		0.38	0.17	0.25	0.31	0.38	0.49	0.52		1.1	1.1	1.60
151	150	2.18	1.68	1.27	0.88	0.084	0.53	0.23	0.28	0.28	0.35	0.43	0.46	1.80	0.95	1.0	1.42
181	180	2.77	1.87	1.45	0.98		0.62	0.29	0.35	0.26	0.32	0.39	0.42		0.85	0.9	1.30
221	220	3.12	2.08	1.65	1.17		0.70	0.40	0.39	0.23	0.29	0.35	0.36		0.8	0.8	1.16
271	270	4.38	2.37	2.31	1.64		0.876	0.46	0.56	0.22	0.26	0.32	0.34		0.6	0.8	1.06
331	330	4.94	2.67	2.62	1.86	0.094	0.99	0.51	0.64	0.19	0.23	0.28	0.32	1.65	0.5	0.7	0.95
391	390		2.94	2.94	2.85			0.69	0.70		0.22	0.26	0.29			0.7	0.88
471	470		3.93	4.18	3.01			0.77	0.98		0.20	0.24	0.26			0.6	0.79
561	560		5.43	4.67	3.62			0.86	1.07		0.18	0.22	0.23			0.5	0.73
681	680		7.32	5.73	4.63			1.20	1.46		0.17	0.19	0.22			0.5	0.67
821	820		8.24	6.54	5.20			1.34	1.64		0.15	0.18	0.20			0.4	0.60
102	1000		9.26	9.44	6.00			1.53	1.82		0.14	0.16	0.18			0.4	0.55

1.Test Freq(L):
TCRH0603:2.9μH~5.5μH(7.96MHz/0.25V); 10μH~330μH(1KHz/0.25V)
TCRH0605:10μH~1000μH (1KHz/0.25V)
TCRH0703:10μH~1000μH (1KHz/0.25V)
TCRH0704:10μH~1000μH (1KHz/0.25V)
TCRH1203:10μH~330μH (1KHz/0.25V)
TCRH1204:3.9μH~330μH (100KHz/0.25V)
TCRH1205:1.3μH~7.5μH (7.96MHz/0.25V);10μH~1000μH (1KHz/0.25V)
TCRH1207:1.2μH~7.6μH (100KHz/0.25V);10μH~1000μH (1KHz/0.25V)

2.Tolerance of Inductance: 1.0~9.0μH+40/-20%(N) 10~1000μH±20%(M); 3.Operating temperature-40℃to+85℃.

4.Rated current :The indicates the value of current when the inductance is 75% more than its nominal value and temperature rising Δt=40℃ lower at D.C. superposition.

TCRH12xxB TYPE

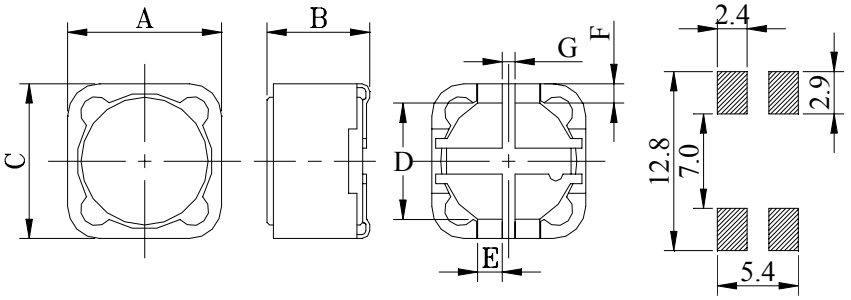
SMD DC-DC Converter Transformer

FEATURE:

- Low profile, SMD type;
- Magnetically sheilded,sutable for high density mounting;
- High energy storage and low DCR;
- Low core loss for high frequency power application.
- Provided with embossed carrier tape packing.
- Two windings,ideal for notebook power sousce circuits.

SHAPES&DIMENSION

Unit:mm



APPLICATION

- DC/DC converter
- Notebook computers power circuits

Part No.	A	B	C	D	E	F	G
TCRH1204B	12.0±0.30	5.0MAX	12.0±0.30	7.6	2.0	2.0	1.0
TCRH1205B	12.0±0.30	6.0MAX	12.0±0.30	7.6	2.0	2.0	1.0
TCRH1207B	12.0±0.30	8.0MAX	12.0±0.30	7.6	2.0	2.0	1.0

STANDARD SPECIFICATION

PART NO.	L (μH)		DCR(mΩ)Max.		TURNS RATIO (L1:L2)	I_{RATED} (Adc)
	L1	L2	L1	L2		
TCRH1204B-1022	10	45	36	590	1:2.2	4.0
TCRH1204B-1024	10	47	39	600	1:2.4	4.0
TCRH1205B-5622	5. 6	26. 5	20	220	1:2.2	5.3
TCRH1205B-6822	6. 8	32	21	250	1:2.2	5.0
TCRH1205B-8220	8. 2	32	22	260	1:2.0	4.7
TCRH1205B-8222	8. 2	35	22	270	1:2.2	4.7
TCRH1205B-1014	10	21	27	180	1:1.4	4.3
TCRH1205B-1016	10	25	27	220	1:1.6	4.3
TCRH1205B-1022	10	45	27	300	1:2.2	4.3
TCRH1205B-1020	10	45	30	300	1:2.0	4.0
TCRH1207B-7622	7. 6	38	22	300	1:2.2	7.0
TCRH1207B-1022	10	45	30	200	1:2.2	4.5
TCRH1207B-1042	10	178	30	660	1:4.2	4.5

1.Tolerance of inductance:±30%(N)

2. I_{RATED} current ΔL<10%,ΔT<45℃ at I_{RATED}

3. Operating temperature:-20℃ to 105℃(including self-temperature rise)

4. Test condition at 25℃:1KHz,0.25V

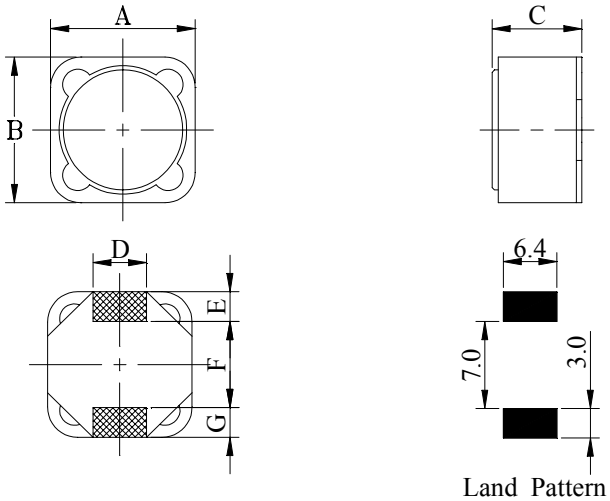
TCRH12xxP TYPE
SMD POWER INDUCTOR

FEATURE:

- High current capacity;
- Magnetic shielded for low radiation;
- Ferrite bobbin core and compact size;
- Low core loss for high frequency power application.
- Large terminal surface for good PCB bonding.

SHAPES&DIMENSION

Unit:mm



Part No.	A	B	C	D	E	F	G
TCRH1204P	12.0±0.30	12.0±0.30	5.0MAX	5.0	2.2	7.6	2.2
TCRH1205P	12.0±0.30	12.0±0.30	6.0MAX	5.0	2.2	7.6	2.2
TCRH1207P	12.0±0.30	12.0±0.30	8.4MAX	5.0	2.2	7.6	2.2

APPLICATION

- DC/DC converter
- Power supplies for:
  Protable communication equipment
- Camcorder
- LCD TV
- Notebook computer

PART NUMBERING SYSTEM:

TCRH □□ □□P - □□□ □

1 2 3 4 5

1) PRODUCT SYMBOL
2) OUTSIDE DIA :m/m
3) BODY HEIGHT :m/m
4) INDUCTANCE :μH
5) TOLERANCE :K 10%, L 15%, M 20%

TCRH12xxP TYPE
SMD POWER INDUCTOR

STANDARD SPECIFICATION

Part Inductance		DCR(Ω)Max.			Rated D.C. Current(A)Max.		
No.	L(μH)	TCRH 1204P	TCRH 1205P	TCRH 1207P	TCRH 1204P	TCRH 1205P	TCRH 1207P
1R2	1.2			0.007			9.8
1R3	1.3		0.012			8.0	
1R5	1.5						
2R1	2.1		0.014			7.0	
2R2	2.2						
2R4	2.4			0.012			8.0
2R9	2.9						
3R1	3.1		0.017			6.0	
3R5	3.5			0.014			7.5
3R9	3.9	0.015			6.5		
4R0	4.0						
4R4	4.4		0.02			5.0	
4R7	4.7	0.018		0.016	5.7		6.8
5R5	5.5						
5R8	5.8		0.021			4.4	
6R1	6.1			0.018			6.6
6R8	6.8	0.023			4.9		
7R5	7.5		0.024			4.2	
7R6	7.6			0.020			5.9
100	10	0.028	0.025	0.022	4.5	4.0	5.4
120	12	0.038	0.027	0.025	4.0	3.5	4.9
150	15	0.050	0.030	0.027	3.2	3.3	4.5
180	18	0.057	0.034	0.04	3.1	3.0	3.9
220	22	0.066	0.036	0.044	2.9	2.8	3.6
270	27	0.080	0.051	0.046	2.8	2.3	3.4
330	33	0.097	0.057	0.065	2.7	2.1	3.0
390	39	0.132	0.068	0.073	2.1	2.0	2.8
470	47	0.15	0.075	0.10	1.9	1.8	2.5
560	56	0.19	0.11	0.11	1.8	1.7	2.35
680	68	0.22	0.12	0.14	1.5	1.5	2.10
820	82	0.26	0.14	0.16	1.3	1.4	1.95
101	100	0.308	0.16	0.22	1.2	1.3	1.70
121	120	0.38	0.17	0.25	1.1	1.1	1.60
151	150	0.53	0.23	0.28	0.95	1.0	1.42
181	180	0.62	0.29	0.35	0.85	0.9	1.30
221	220	0.70	0.40	0.39	0.8	0.8	1.16
271	270	0.876	0.46	0.56	0.6	0.8	1.06
331	330	0.99	0.51	0.64	0.5	0.7	0.95
391	390		0.69	0.70		0.7	0.88
471	470		0.77	0.98		0.6	0.79
561	560		0.86	1.07		0.5	0.73
681	680		1.20	1.46		0.5	0.67
821	820		1.34	1.64		0.4	0.60
102	1000		1.53	1.82		0.4	0.55

1.Test Freq(L):
TCRH1204P:3.9μH~330μH (100KHz/0.25V)
TCRH1205P:1.3μH~7.5μH (7.96MHz/0.25V);10μH~1000μH (1KHz/0.25V)
TCRH1207P:1.2μH~7.6μH (100KHz/0.25V);10μH~1000μH (1KHz/0.25V)

2.Tolerance of Inductance: 1.0~8.2μH+40/-20%(N) 10~1000μH±20%(M);

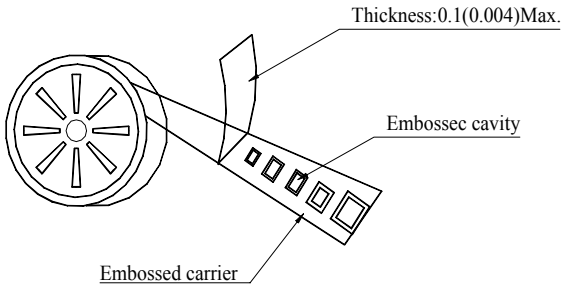
3.Rated current :The indicates the value of current when the inductance is 90% more than its nominal value and temperature risingΔt=40℃ lower at D.C. superposition.

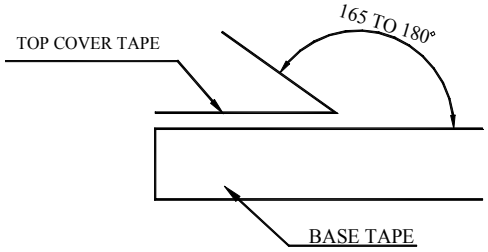
4. Operating temperature-40℃to+85℃.

5. Electrical specifications at 25℃.

TCRH-B/P TYPE
SMD POWER INDUCTOR

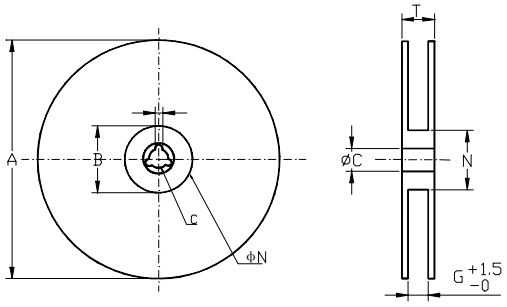
PACKAGING FOR SMC





The force for tearing off cover tape is 10 to 60 grams in the arrow direction.

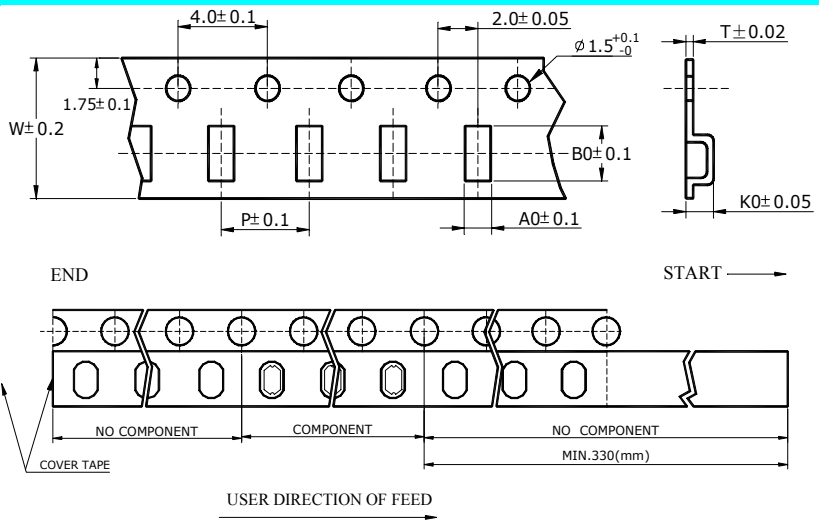
CARRIER TAPE REELS



MATERIAL:PAPER/PLASTIC Dimension in mm

TYPE	A	B	C	G	N	T
8mm	178	21.0±0.8	13.0±0.2	8.4	55	12.4
12mm	178	21.0±0.8	13.0±0.2	12.4	55	16.4
16mm	178	21.0±0.8	13.0±0.2	16.4	55	20.4
24mm	178	21.0±0.8	13.0±0.2	24.4	100	28.4
12mm	330	21.0±0.8	13.0±0.2	12.4	100	16.4
16mm	330	21.0±0.8	13.0±0.2	16.4	100	20.4
24mm	330	21.0±0.8	13.0±0.2	24.4	100	28.4
24mm	330	21.0±0.8	13.0±0.2	24.4	75	28.4
32mm	330	21.0±0.8	13.0±0.2	32.4	75	36.4

TAPE DIMENSION/PACKAGING



TYPE	A0	B0	K0	W	P	T	CHIPS/REEL
TCRH0603	6.20	6.60	3.80	16.0	12.0	0.40	1000
TCRH0605	6.20	6.60	5.80	16.0	12.0	0.40	1000
TCRH0703	7.60	7.60	3.70	16.0	12.0	0.30	500
TCRH0704	7.60	7.60	5.40	16.0	12.0	0.40	500
TCRH1203	12.60	12.60	4.60	24.0	16.0	0.40	500
TCRH1204	12.60	12.60	5.20	24.0	16.0	0.40	500
TCRH1204B	12.60	12.60	5.20	24.0	16.0	0.40	500
TCRH1204P	12.60	12.60	5.20	24.0	16.0	0.40	500
TCRH1205	12.60	12.60	5.80	24.0	16.0	0.40	500
TCRH1205B	12.60	12.60	5.80	24.0	16.0	0.40	500
TCRH1205P	12.60	12.60	5.80	24.0	16.0	0.40	500
TCRH1207	12.60	12.60	8.00	24.0	16.0	0.40	500
TCRH1207B	12.60	12.60	8.00	24.0	16.0	0.40	500
TCRH1207P	12.60	12.60	8.00	24.0	16.0	0.40	500

Dimension in mm