SMD Shielded Power Inductors / SPIB TYPE

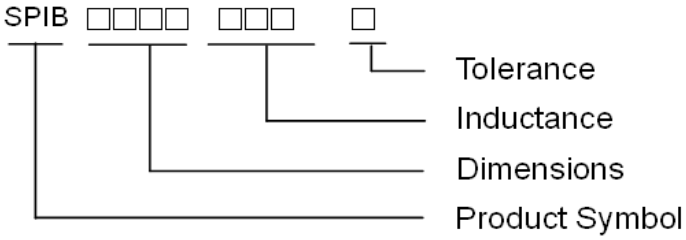
.Features:

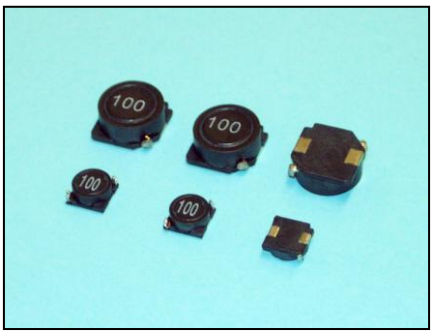
1.To be high saturation for surface mounting.
2.Low resistance to keep power loss minimum.
3.Surface mount inductor with high current rating.

.Applications:

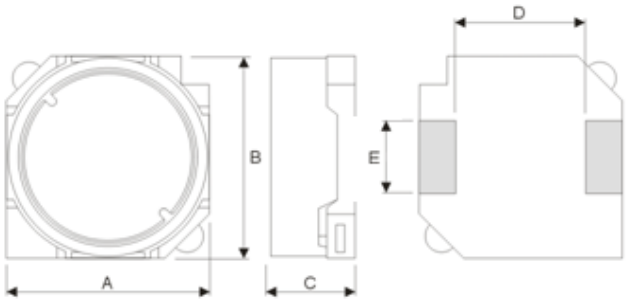
Excellent for power line DC-DC conversion applications used in hard disk, notebook computers and other electronic equipment.

.Product Identification :

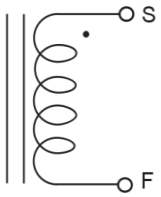




.Shape and Dimension



.Schematic

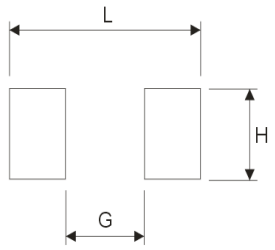


Dimensions in mm

TYPE	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
SPIB6025	6.00±0.30	6.00±0.30	2.70 Max	4.00 Typ.	2.00±0.20
SPIB6028	6.00±0.30	6.00±0.30	3.00 Max	4.00 Typ.	2.00±0.20
SPIB6038	6.00±0.30	6.00±0.30	4.00 Max	4.00 Typ.	2.00±0.20
SPIB6048	6.00±0.30	6.00±0.30	5.00 Max	4.00 Typ.	2.00±0.20
SPIB7028	7.00±0.30	7.00±0.30	3.00 Max	4.90 Typ.	2.00±0.20
SPIB7030	7.00±0.30	7.00±0.30	3.20 Max	4.90 Typ.	2.00±0.20
SPIB7032	7.00±0.30	7.00±0.30	3.40 Max	4.90 Typ.	2.00±0.20
SPIB7045	7.00±0.30	7.00±0.30	4.80 Max	4.90 Typ.	2.00±0.20
SPIB10130	10.1±0.30	10.1±0.30	3.30 Max	6.00 Typ.	3.00±0.20
SPIB10145	10.1±0.30	10.1±0.30	4.80 Max	6.00 Typ.	3.00±0.20
SPIB12555	12.5±0.30	12.5±0.30	5.80 Max	8.60 Typ.	3.00±0.20
SPIB12565	12.5±0.30	12.5±0.30	6.80 Max	8.60 Typ.	3.00±0.20
SPIB12575	12.5±0.30	12.5±0.30	7.80 Max	8.60 Typ.	3.00±0.20

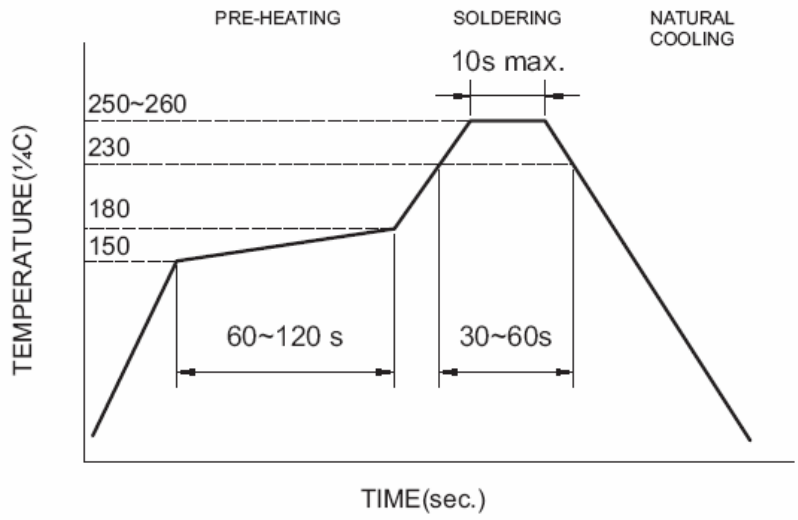
SMD Shielded Power Inductors / SPIB TYPE

.Land Patterns for Reflow Soldering



TYPE	L(mm)	G(mm)	H(mm)
SPIB6025	7	4	2.2
SPIB6028	7	4	2.2
SPIB6038	7	4	2.2
SPIB6048	7	4	2.2
SPIB7028	7.9	4.9	2.2
SPIB7030	7.9	4.9	2.2
SPIB7032	7.9	4.9	2.2
SPIB7045	7.9	4.9	2.2
SPIB10130	10.6	5.6	3.2
SPIB10145	10.6	5.6	3.2
SPIB12555	13.6	8.6	3.2
SPIB12565	13.6	8.6	3.2
SPIB12575	13.6	8.6	3.2

.Recommended Reflow Soldering Conditions
(For Lead Free)



SMD Shielded Power Inductors / SPIB TYPE

. Electrical Characteristics（SPIB6025 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB6025-4R7☐	4.7	20	1.5	1.8	0.0367	1V/1.0K
SPIB6025-6R8☐	6.8	20	1.3	1.5	0.053	1V/1.0K
SPIB6025-100☐	10	20	1	1.3	0.069	1V/1.0K
SPIB6025-150☐	15	20	0.88	1.1	0.102	1V/1.0K
SPIB6025-220☐	22	20	0.73	0.94	0.146	1V/1.0K
SPIB6025-330☐	33	20	0.59	0.79	0.216	1V/1.0K
SPIB6025-470☐	47	20	0.48	0.67	0.288	1V/1.0K
SPIB6025-680☐	68	20	0.42	0.54	0.444	1V/1.0K
SPIB6025-101☐	100	20	0.33	0.47	0.6	1V/1.0K

Electrical Characteristics（SPIB6028 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB6028-4R7☐	4.7	20	1.6	2.5	0.034	1V/1.0K
SPIB6028-6R8☐	6.8	20	1.5	2.2	0.0425	1V/1.0K
SPIB6028-100☐	10	20	1.3	1.8	0.064	1V/1.0K
SPIB6028-150☐	15	20	1	1.4	0.09	1V/1.0K
SPIB6028-220☐	22	20	0.77	1.3	0.125	1V/1.0K
SPIB6028-330☐	33	20	0.69	1.1	0.178	1V/1.0K
SPIB6028-470☐	47	20	0.59	0.92	0.252	1V/1.0K
SPIB6028-680☐	68	20	0.5	0.78	0.348	1V/1.0K
SPIB6028-101☐	100	20	0.42	0.64	0.516	1V/1.0K

Electrical Characteristics（SPIB6038 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	Rated Current （A）	DCR (Ω) Max	Test Condition
SPIB6038-1R0☐	1	20	2.5	0.022	1V/100K
SPIB6038-1R5☐	1.5	20	2.2	0.025	1V/100K
SPIB6038-2R2☐	2.2	20	1.9	0.03	1V/100K
SPIB6038-3R3☐	3.3	20	1.7	0.035	1V/100K
SPIB6038-4R7☐	4.7	20	1.3	0.05	1V/100K
SPIB6038-6R8☐	6.8	20	1.1	0.055	1V/100K
SPIB6038-100☐	10	20	1	0.065	1V/100K
SPIB6038-120☐	12	20	0.9	0.09	1V/100K
SPIB6038-150☐	15	20	0.8	0.1	1V/100K
SPIB6038-180☐	18	20	0.7	0.11	1V/100K
SPIB6038-220☐	22	20	0.65	0.15	1V/100K
SPIB6038-270☐	27	20	0.6	0.17	1V/100K
SPIB6038-330☐	33	20	0.55	0.22	1V/100K
SPIB6038-390☐	39	20	0.5	0.24	1V/100K
SPIB6038-470☐	47	20	0.47	0.3	1V/100K

SMD Shielded Power Inductors / SPIB TYPE

Electrical Characteristics（SPIB6038 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	Rated Current （A）	DCR (Ω) Max	Test Condition
SPIB6038-560☐	56	20	0.42	0.34	1V/100K
SPIB6038-680☐	68	20	0.4	0.39	1V/100K
SPIB6038-820☐	82	20	0.35	0.5	1V/100K
SPIB6038-101☐	100	20	0.32	0.57	1V/100K
SPIB6038-121☐	120	20	0.3	0.63	1V/100K
SPIB6038-151☐	150	20	0.27	0.9	1V/100K
SPIB6038-181☐	180	20	0.25	0.99	1V/100K
SPIB6038-221☐	220	20	0.22	1.15	1V/100K
SPIB6038-271☐	270	20	0.2	1.55	1V/100K
SPIB6038-331☐	330	20	0.18	1.76	1V/100K
SPIB6038-391☐	390	20	0.17	2.6	1V/100K
SPIB6038-471☐	470	20	0.16	3	1V/100K
SPIB6038-561☐	560	20	0.15	3.3	1V/100K
SPIB6038-681☐	680	20	0.13	3.7	1V/100K
SPIB6038-821☐	820	20	0.12	4.9	1V/100K
SPIB6038-102☐	1000	20	0.11	5.7	1V/100K

Electrical Characteristics（SPIB6048 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	Rated Current （A）	DCR (Ω) Max	Test Condition
SPIB6048-1R0☐	1	20	2.7	0.023	1V/100K
SPIB6048-1R5☐	1.5	20	2.3	0.026	1V/100K
SPIB6048-2R2☐	2.2	20	1.9	0.028	1V/100K
SPIB6048-3R3☐	3.3	20	1.8	0.035	1V/100K
SPIB6048-4R7☐	4.7	20	1.4	0.04	1V/100K
SPIB6048-6R8☐	6.8	20	1.2	0.045	1V/100K
SPIB6048-100☐	10	20	1	0.06	1V/100K
SPIB6048-150☐	15	20	0.8	0.07	1V/100K
SPIB6048-220☐	22	20	0.65	0.11	1V/100K
SPIB6048-330☐	33	20	0.55	0.165	1V/100K
SPIB6048-470☐	47	20	0.45	1.2	1V/100K
SPIB6048-680☐	68	20	0.37	0.285	1V/100K
SPIB6048-101☐	100	20	0.3	0.42	1V/100K
SPIB6048-151☐	150	20	0.25	0.63	1V/100K
SPIB6048-181☐	180	20	0.22	0.72	1V/100K
SPIB6048-221☐	220	20	0.2	0.82	1V/100K
SPIB6048-271☐	270	20	0.18	1.1	1V/100K
SPIB6048-331☐	330	20	0.17	1.2	1V/100K
SPIB6048-391☐	390	20	0.16	1.7	1V/100K
SPIB6048-471☐	470	20	0.14	1.9	1V/100K
SPIB6048-561☐	560	20	0.13	2.15	1V/100K

SMD Shielded Power Inductors / SPIB TYPE

Electrical Characteristics（SPIB6048 TYPE）

Part No.	INDUCTANCE（μH）	Tolerane (±%)	Rated Current（A）	DCR (Ω) Max	Test Condition
SPIB6048-681☐	680	20	0.12	3.3	1V/100K
SPIB6048-821☐	820	20	0.11	3.65	1V/100K
SPIB6048-102☐	1000	20	0.1	4.15	1V/100K

Electrical Characteristics（SPIB7028 TYPE）

Part No.	INDUCTANCE（μH）	Tolerane (±%)	Rated Current（A）	DCR (Ω) Max	Test Condition
SPIB7028-3R3☐	3.3	20	1.6	0.037	1V/100K
SPIB7028-4R7☐	4.7	20	1.5	0.045	1V/100K
SPIB7028-6R8☐	6.8	20	1.3	0.059	1V/100K
SPIB7028-100☐	10	20	1.1	0.083	1V/100K
SPIB7028-150☐	15	20	0.88	0.13	1V/100K
SPIB7028-220☐	22	20	0.75	0.18	1V/100K
SPIB7028-330☐	33	20	0.65	0.24	1V/100K
SPIB7028-470☐	47	20	0.54	0.34	1V/100K

Electrical Characteristics（SPIB7030 TYPE）

Part No.	INDUCTANCE（μH）	Tolerane (±%)	Rated Current（A）	DCR (Ω) Max	Test Condition
SPIB7030-3R3☐	3.3	20	1.8	0.023	1V/1.0K
SPIB7030-4R7☐	4.7	20	1.6	0.036	1V/1.0K
SPIB7030-6R8☐	6.8	20	1.5	0.041	1V/1.0K
SPIB7030-100☐	10	20	1.3	0.053	1V/1.0K
SPIB7030-150☐	15	20	1	0.084	1V/1.0K
SPIB7030-220☐	22	30	0.86	0.11	1V/1.0K
SPIB7030-330☐	33	30	0.65	0.16	1V/1.0K
SPIB7030-470☐	47	30	0.57	0.24	1V/1.0K
SPIB7030-680☐	68	30	0.49	0.31	1V/1.0K
SPIB7030-101☐	100	30	0.35	0.45	1V/1.0K

Electrical Characteristics（SPIB7032 TYPE）

Part No.	INDUCTANCE（μH）	Tolerane (±%)	Rated Current（A）	DCR (Ω) Max	Test Condition
SPIB7032-3R3☐	3.3	30	1.9	0.023	1V/1.0K
SPIB7032-4R7☐	4.7	30	1.7	0.036	1V/1.0K
SPIB7032-6R8☐	6.8	30	1.6	0.041	1V/1.0K
SPIB7032-100☐	10	30	1.4	0.053	1V/1.0K
SPIB7032-150☐	15	20	1.1	0.075	1V/1.0K
SPIB7032-220☐	22	20	0.96	0.11	1V/1.0K
SPIB7032-330☐	33	20	0.75	0.16	1V/1.0K
SPIB7032-470☐	47	20	0.67	0.24	1V/1.0K
SPIB7032-680☐	68	20	0.59	0.31	1V/1.0K
SPIB7032-101☐	100	20	0.45	0.45	1V/1.0K

SMD Shielded Power Inductors / SPIB TYPE

Electrical Characteristics（SPIB7032 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	Rated Current （A）	DCR (Ω) Max	Test Condition
SPIB7032-151☐	150	20	0.37	0.65	1V/1.0K
SPIB7032-221☐	220	20	0.29	1.05	1V/1.0K
SPIB7032-331☐	330	20	0.22	1.67	1V/1.0K
SPIB7032-471☐	470	20	0.2	2.05	1V/1.0K
SPIB7032-681☐	680	20	0.16	3.15	1V/1.0K
SPIB7032-102☐	1000	20	0.13	4.78	1V/1.0K

Electrical Characteristics（SPIB7045 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB7045-3R3☐	3.3	20	2.5	2.3	0.02	0.25V/100kHZ
SPIB7045-4R7☐	4.7	20	2	2.1	0.03	0.25V/100kHZ
SPIB7045-6R8☐	6.8	20	1.7	1.74	0.039	0.25V/100kHZ
SPIB7045-100☐	10	20	1.3	1.78	0.036	0.25V/100kHZ
SPIB7045-150☐	15	20	1.1	1.53	0.052	0.25V/100kHZ
SPIB7045-220☐	22	20	0.9	1.34	0.061	0.25V/100kHZ
SPIB7045-330☐	33	20	0.82	1.09	0.096	0.25V/100kHZ
SPIB7045-470☐	47	20	0.75	0.92	0.125	0.25V/100kHZ
SPIB7045-680☐	68	20	0.6	0.77	0.175	0.25V/100kHZ
SPIB7045-101☐	100	20	0.5	0.65	0.25	0.25V/100kHZ
SPIB7045-151☐	150	20	0.4	0.55	0.34	0.25V/100kHZ
SPIB7045-221☐	220	20	0.33	0.45	0.52	0.25V/100kHZ
SPIB7045-331☐	330	20	0.25	0.37	0.74	0.25V/100kHZ
SPIB7045-471☐	470	20	0.22	0.31	1.05	0.25V/100kHZ
SPIB7045-681☐	680	30	0.2	0.27	1.48	0.25V/100kHZ
SPIB7045-102☐	1000	30	0.14	0.25	2.28	0.25V/100kHZ

Electrical Characteristics（SPIB10130 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	Rated Current （A）	DCR (Ω) Max	Test Condition
SPIB10130-1R5☐	1.5	30	4	0.022	1V/100K
SPIB10130-2R2☐	2.2	30	3.5	0.025	1V/100K
SPIB10130-3R3☐	3.3	30	3	0.04	1V/100K
SPIB10130-4R7☐	4.7	20	2.5	0.045	1V/100K
SPIB10130-6R8☐	6.8	20	2.2	0.06	1V/100K
SPIB10130-100☐	10	20	2	0.07	1V/100K
SPIB10130-120☐	12	20	1.9	0.095	1V/100K
SPIB10130-150☐	15	20	1.7	0.12	1V/100K
SPIB10130-180☐	18	20	1.55	0.13	1V/100K
SPIB10130-220☐	22	20	1.45	0.18	1V/100K
SPIB10130-270☐	27	20	1.3	0.2	1V/100K
SPIB10130-330☐	33	20	1.1	0.21	1V/100K
SPIB10130-390☐	39	20	1	0.27	1V/100K

SMD Shielded Power Inductors / SPIB TYPE

Electrical Characteristics（SPIB10130 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	Rated Current （A）	DCR (Ω) Max	Test Condition
SPIB10130-470☐	47	20	0.85	0.3	1V/100K
SPIB10130-560☐	56	20	0.8	0.4	1V/100K
SPIB10130-680☐	68	20	0.75	0.44	1V/100K
SPIB10130-820☐	82	20	0.65	0.49	1V/100K

Electrical Characteristics（SPIB10145 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB10145-100☐	10	20	3	2.5	0.036	1V/1.0K
SPIB10145-150☐	15	20	2.4	2.2	0.047	1V/1.0K
SPIB10145-220☐	22	20	2.1	1.9	0.059	1V/1.0K
SPIB10145-330☐	33	20	1.6	1.7	0.082	1V/1.0K
SPIB10145-470☐	47	20	1.4	1.5	0.1	1V/1.0K
SPIB10145-680☐	68	20	1.2	1.3	0.14	1V/1.0K
SPIB10145-101☐	100	20	1	1.1	0.2	1V/1.0K
SPIB10145-151☐	150	20	0.79	0.81	0.35	1V/1.0K
SPIB10145-221☐	220	20	0.65	0.7	0.47	1V/1.0K
SPIB10145-331☐	330	20	0.54	0.58	0.68	1V/1.0K
SPIB10145-471☐	470	20	0.47	0.47	1.03	1V/1.0K
SPIB10145-681☐	680	20	0.38	0.38	1.6	1V/1.0K
SPIB10145-102☐	1000	20	0.32	0.29	2.8	1V/1.0K
SPIB10145-152☐	1500	30	0.22	0.26	3.4	1V/1.0K

Electrical Characteristics（SPIB12555 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB12555-6R0☐	6	30	3.6	4.9	16.4	1V/1.0K
SPIB12555-100☐	10	30	3.4	4.3	21.5	1V/1.0K
SPIB12555-150☐	15	30	2.8	3.9	25.9	1V/1.0K
SPIB12555-220☐	22	30	2.3	3.4	33.8	1V/1.0K
SPIB12555-330☐	33	30	1.9	3.1	41.5	1V/1.0K
SPIB12555-470☐	47	30	1.6	2.5	61.8	1V/1.0K
SPIB12555-680☐	68	30	1.3	2.2	83.2	1V/1.0K
SPIB12555-101☐	100	30	1.1	1.8	117.2	1V/1.0K
SPIB12555-151☐	150	20	0.88	1.4	190	1V/1.0K
SPIB12555-221☐	220	20	0.72	1.2	270	1V/1.0K
SPIB12555-331☐	330	20	0.59	1	410	1V/1.0K
SPIB12555-471☐	470	20	0.49	0.88	520	1V/1.0K
SPIB12555-681☐	680	20	0.43	0.73	760	1V/1.0K
SPIB12555-102☐	1000	20	0.34	0.6	1120	1V/1.0K
SPIB12555-152☐	1500	20	0.29	0.48	1730	1V/1.0K

SMD Shielded Power Inductors / SPIB TYPE

Electrical Characteristics（SPIB12565 TYPE）

Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB12565-2R0☐	2	20	10	6.2	11.7	1V/1.0K
SPIB12565-4R2☐	4.2	20	7.3	5.5	15	1V/1.0K
SPIB12565-7R0☐	7	20	5.7	5	17.7	1V/1.0K
SPIB12565-100☐	10	20	5	4.8	20.2	1V/1.0K
SPIB12565-150☐	15	20	4.2	4.4	23.7	1V/1.0K
SPIB12565-220☐	22	20	3.5	3.8	31.6	1V/1.0K
SPIB12565-330☐	33	20	2.8	3.4	40.6	1V/1.0K
SPIB12565-470☐	47	20	2.4	2.8	57.8	1V/1.0K
SPIB12565-680☐	68	20	2	2.4	78.7	1V/1.0K
SPIB12565-101☐	100	20	1.6	1.9	123	1V/1.0K
SPIB12565-151☐	150	20	1	1.2	273	1V/1.0K

Electrical Characteristics（SPIB12575 TYPE）

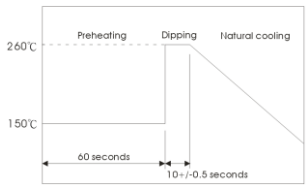
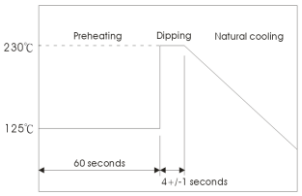
Part No.	INDUCTANCE （μH）	Tolerane (±%)	I sat （A）	I rms （A）	DCR (Ω) Max	Test Condition
SPIB12575-1R2☐	1.2	20	13	8.2	6.9	1V/1.0K
SPIB12575-2R7☐	2.7	20	10	7	9.4	1V/1.0K
SPIB12575-3R9☐	3.9	20	9	6.7	10.4	1V/1.0K
SPIB12575-5R6☐	5.6	20	7.8	6.3	11.6	1V/1.0K
SPIB12575-6R8☐	6.8	20	7.2	5.9	13.1	1V/1.0K
SPIB12575-100☐	10	20	5.5	5.4	15.6	1V/1.0K
SPIB12575-150☐	15	20	4.7	5	18.4	1V/1.0K
SPIB12575-220☐	22	20	4	4	26.3	1V/1.0K
SPIB12575-330☐	33	20	3.2	3.4	39.5	1V/1.0K
SPIB12575-470☐	47	20	2.7	3	52.8	1V/1.0K
SPIB12575-680☐	68	20	2	2.4	77.8	1V/1.0K
SPIB12575-101☐	100	20	1.9	1.9	125	1V/1.0K
SPIB12575-151☐	150	20	1.5	1.6	175	1V/1.0K
SPIB12575-221☐	220	20	1.3	1.3	258	1V/1.0K

NOTE:

1. Inductance is measured by LCR-meter 4284A(HP) or equivalent.
2. DC Resistance is measured by HP4338B Milliohms Meter or equivalent.
3. Rated current is measured by LCR-meter 3260B(WK) & DC Bias 3265B(WK).
4. Rated current:Value obtained when current flows and the temperautre has risen to 40℃ or when DC current flows and the
   initial value of inductance has fallen by 35%, whichever is smaller.
5. Operating temperature -55℃ ~ +125℃.
6. All test data is referenced to 25℃ ambient.
7. ☐Tolerance：M=20%；N=30%

SMD Shielded Power Inductors / SPIB TYPE

. Reliability and Test Conditions(可靠性測試條件)

ITEM	Performance	Test Condition
Operating Temperature	-20~+105℃	
Storage temperature	-40~+85℃	
Rated Current	Refer to standard electrical characteristics list.	
Temperature Rise Test	40℃ max.(△t)	
Electrical Performance Test		
Solder Heat Resistance	Appearance:No significant abnormality. Inductance change:Within ± 20%.	Preheat:150℃,60sec. Solder: H63A Solder temperature:260±5℃ Flux for lead free: rosin Dip time:10±0.5sec. 
Solderability Test	More than 90% of the terminal electrode should be covered with solder.	Preheat:125±25℃,60sec. Solder: H63A Solder temperature:230±5℃ Flux for lead free: rosin Dip time:4±1sec. 
High Temperature Resistance Test	Appearance: no damage. Inductance: within±20%of initial value. No disconnection or short circuit.	Temperature:85±2℃. Applied current: rated current. Duration: 500 hrs.
Humidity Resistance Test	Appearance: no damage. Inductance: within±20%of initial value. No disconnection or short circuit.	Temperature:40±2℃. Applied current: rated current. Duration: 500 hrs. Humidity: 90~95%

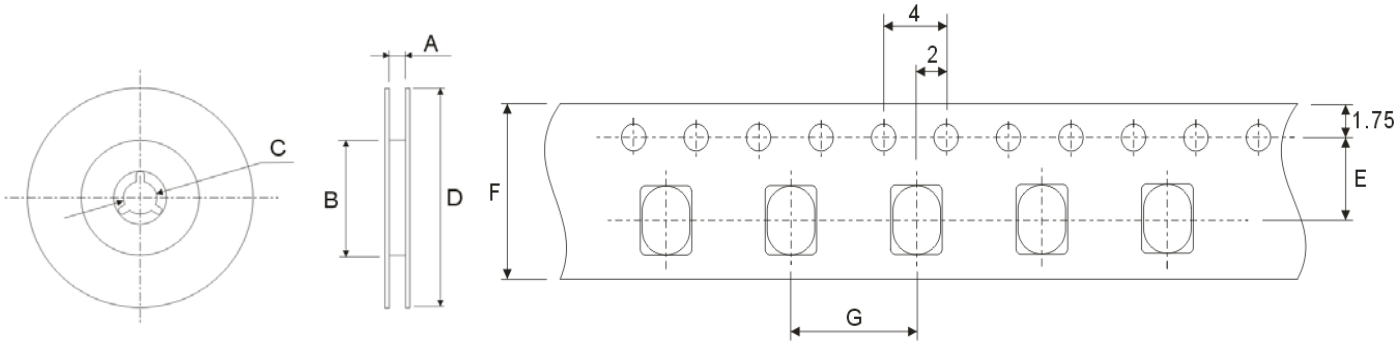
SMD Shielded Power Inductors / SPIB TYPE

. Reliability and Test Conditions(可靠性測試條件)

<table>
<tr><th>ITEM</th><th>Performance</th><th>Test Condition</th></tr>
<tr><td>Thermal shock</td><td>Appearance: no damage.
Inductance: within±20%of initial value.
No disconnection or short circuit.</td><td>Condition for 1 cycle
Step1:-25±2℃，30±3 min.
Step2:Room temperature within 15 min.
Step3:+85±5℃，30±3 min.
Step4: Room temperature within 15 min.
Number of cycles: 50
<table>
<tr><th>Phase</th><th>Temperature(℃)</th><th>Time(min)</th></tr>
<tr><td>1</td><td>-25±2℃</td><td>30±3</td></tr>
<tr><td>2</td><td>Room Temp.</td><td>15</td></tr>
<tr><td>3</td><td>+85±2℃</td><td>30±3</td></tr>
<tr><td>4</td><td>Room Temp.</td><td>15</td></tr>
</table>
</td></tr>
</table>

SMD Shielded Power Inductors / SPIB TYPE

.Packing Specifications



TYPE	Packaging Quantity			Tape and Reel Dimension						
	Pcs / Reel	Inner box	Carton	A	B	C	D	E	F	G
SPIB6025	1500	6000	12000	16.5	100	13±0.5	330	7.5	16	8
SPIB6028	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	8
SPIB6038	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	8
SPIB6048	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	8
SPIB7028	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	12
SPIB7030	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	12
SPIB7032	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	12
SPIB7045	1000	4000	8000	16.5	100	13±0.5	330	7.5	16	12
SPIB10130	1000	3000	6000	24.5	100	13±0.5	330	11.5	24	12
SPIB10145	500	1500	3000	24.5	100	13±0.5	330	11.5	24	12
SPIB12555	500	1500	3000	24.5	100	13±0.5	330	11.5	24	16
SPIB12565	500	1500	3000	24.5	100	13±0.5	330	11.5	24	16
SPIB12575	400	1200	2400	24.5	100	13±0.5	330	11.5	24	16