SMD Multilayer Power Inductors -SMPB Series

Multilayer Power Inductors



The SMPB Series is a miniature type of multilayer power inductor constructed using low-loss ferrite material to support high-speed switching frequencies. The compact size and high efficiency is ideal for DC-DC converter applications in space-limited boards.

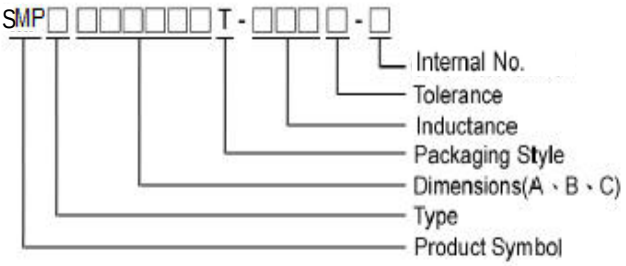
Features

- RoHS, Halogen Free and REACH Compliance
- Small size
- Low profile
- High current
- Magnetically shielded configuration allowing for high density mounting

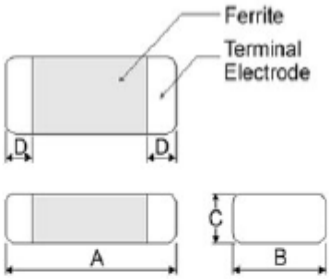
Applications

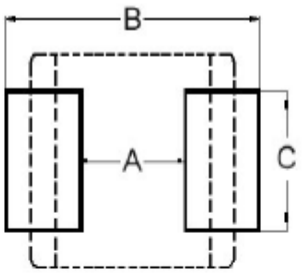
- DC-DC converters
- Power modules
- Cellular phones
- DSC, PND, DVD
- Wireless card and other electronic devices

Product Identification



- Product Symbol :SMPB
- Type : B : Low RDC
- Packaging : T : Tape and Reel , B : Bulk
- Tolerance : M = ± 20% , T = ±30%





Dimensions in mm

TYPE	A	B	C	D
160805	1.6±0.15	0.8±0.15	0.5±0.05	0.3±0.2
160806	1.6±0.15	0.8±0.15	0.6±0.15	0.3±0.2
160808	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
201205	2.0±0.20	1.25±0.20	0.55 Max	0.5±0.3
201210	2.0±0.20	1.25±0.20	1.0 Max	0.5±0.3
201610	2.0±0.20	1.6±0.20	1.0 Max	0.5±0.3
252010	2.5±0.20	2.0±0.20	1.0 Max	0.6±0.2
252012	2.5±0.20	2.0±0.20	1.2 Max	0.6±0.2

Dimensions in mm

TYPE	A	B	C
160805	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
160806	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
201205	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201210	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201610	0.8 ~ 1.2	2.1 ~ 2.7	1.6 ~ 2.0
252010	1.3 ~ 1.9	2.7 ~ 3.5	2.0 ~ 2.6
252012	1.3 ~ 1.9	2.7 ~ 3.5	2.0 ~ 2.6

SMD Multilayer Power Inductors -SMPB Series

Electrical Characteristics

SMPB : Low Profile Series

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±25%	Isat (mA) Max	Irms (mA) Max
SMPB160805T-R47□-N	0.47	20, 30	3	0.15	420	1200
SMPB160805T-1R0□-N	1.0	20, 30	3	0.20	180	1200
SMPB160805T-1R5□-N	1.5	20, 30	3	0.22	130	1000
SMPB160805T-2R2□-N	2.2	20, 30	3	0.24	100	1000

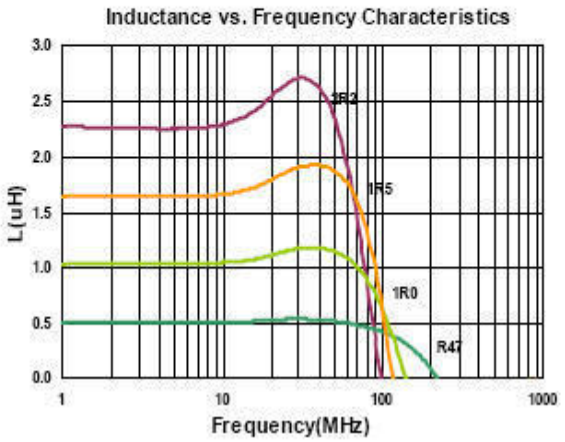
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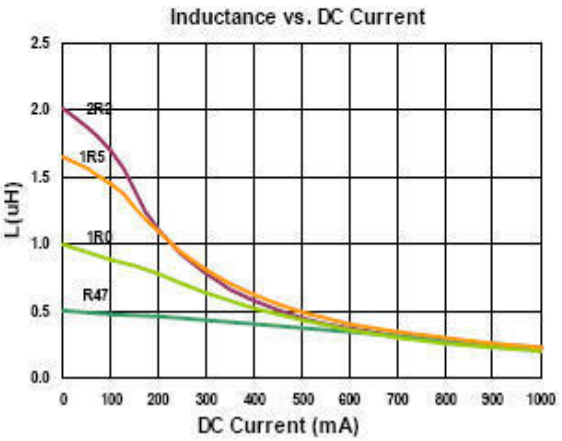
- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40℃ temperature rise from 25℃ ambient with current
- Measure Equipment :

  L : Agilent HP4287A+16197A, 3MHz 200mV

  RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer





SMD Multilayer Power Inductors -SMPB Series

Electrical Characteristics

SMPB : Low RDC Series

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (mA) Max	Irms (mA) Max
SMPB160808T-R47□-N	0.47	20, 30	3	0.15	400	1100
SMPB160808T-1R0□-N	1.0	20, 30	3	0.20	200	950
SMPB160808T-2R2□-N	2.2	20, 30	3	0.30	150	750

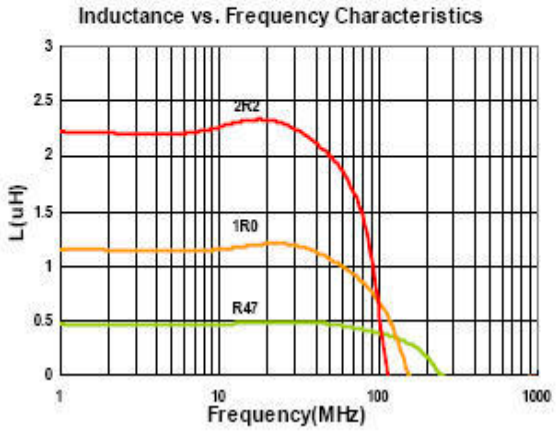
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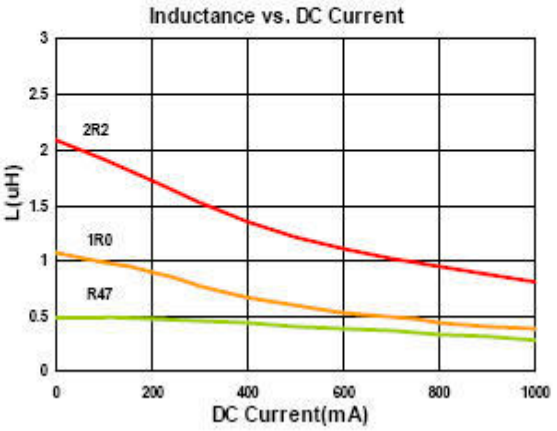
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Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (mA) Max	Irms (mA) Max
SMPB201205T-R47□-N	0.47	20, 30	3	0.11	900	1200
SMPB201205T-1R0□-N	1.0	20, 30	3	0.16	300	900
SMPB201205T-1R5□-N	1.5	20, 30	3	0.18	250	800
SMPB201205T-2R2□-N	2.2	20, 30	3	0.29	200	600
SMPB201205T-4R7□-N	4.7	20, 30	3	0.50	100	700

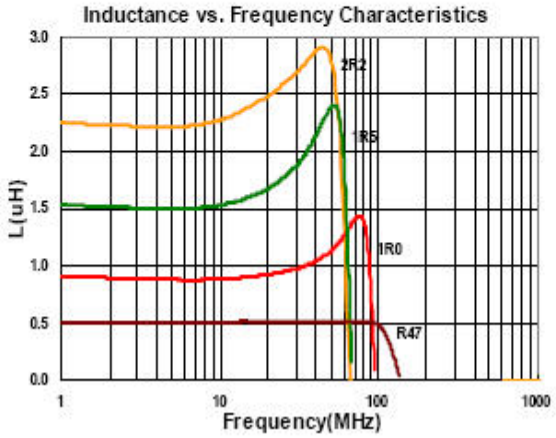
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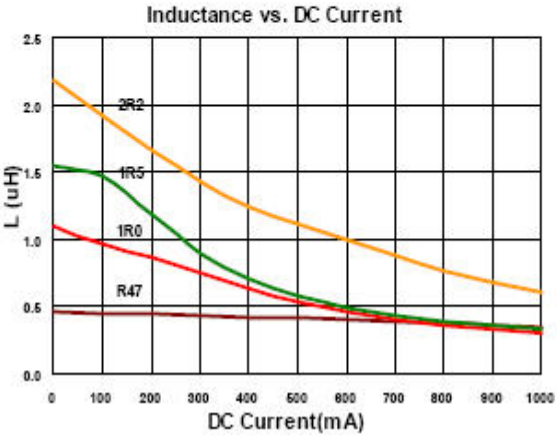
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Electrical Characteristics

SMPB : Low RDC Series

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (mA) Max	Irms (mA) Max
SMPB201210T-R47□-N	0.47	20, 30	3	0.09	1100	1300
SMPB201210T-1R0□-N	1.0	20, 30	3	0.12	650	1200
SMPB201210T-1R5□-N	1.5	20, 30	3	0.15	450	1100
SMPB201210T-2R2□-N	2.2	20, 30	3	0.19	400	1100
SMPB201210T-3R3□-N	3.3	20, 30	3	0.24	300	800
SMPB201210T-4R7□-N	4.7	20, 30	3	0.26	200	700

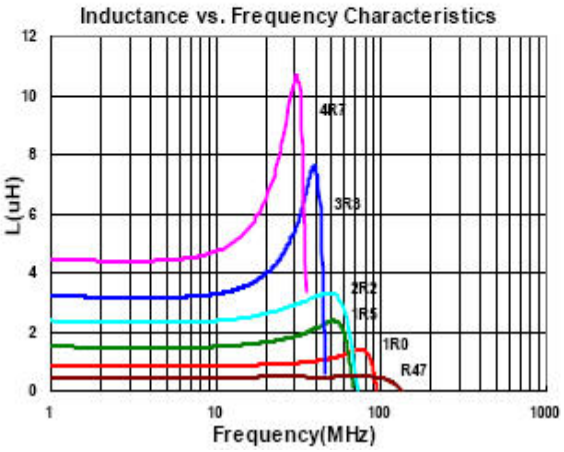
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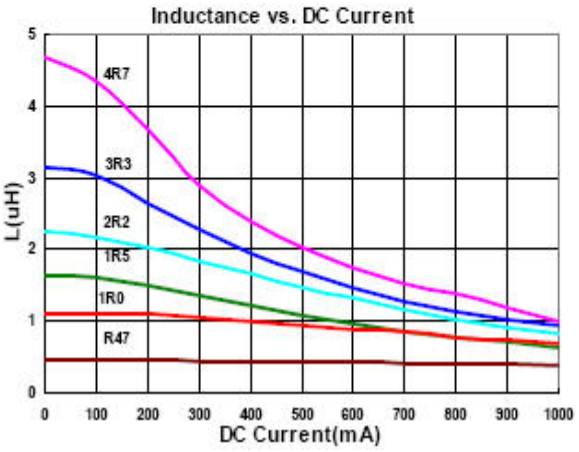
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Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±25%	Isat (mA) Max	Irms (mA) Max
SMPB201610T-R47□-N	0.47	20, 30	3	0.06	1200	1600
SMPB201610T-1R0□-N	1.0	20, 30	3	0.085	850	1300
SMPB201610T-1R5□-N	1.5	20, 30	3	0.11	600	1200
SMPB201610T-2R2□-N	2.2	20, 30	3	0.11	400	1200
SMPB201610T-3R3□-N	3.3	20, 30	3	0.12	350	850
SMPB201610T-4R7□-N	4.7	20, 30	3	0.14	200	1100

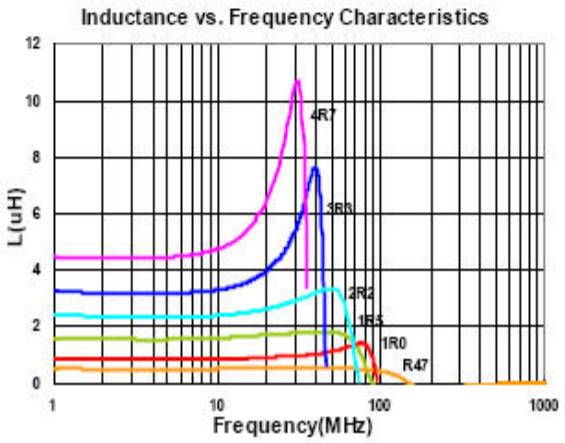
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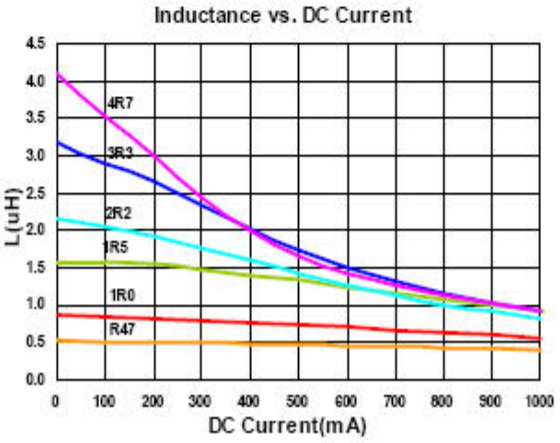
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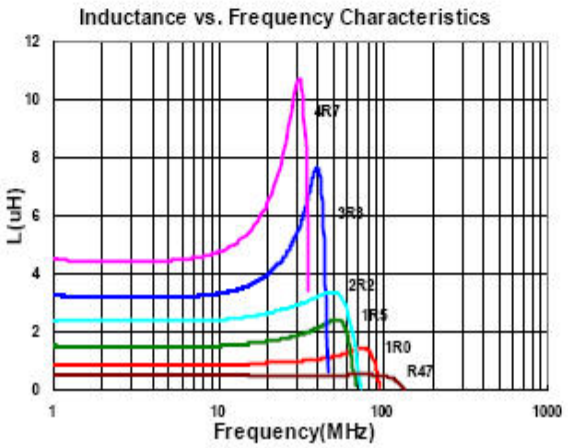
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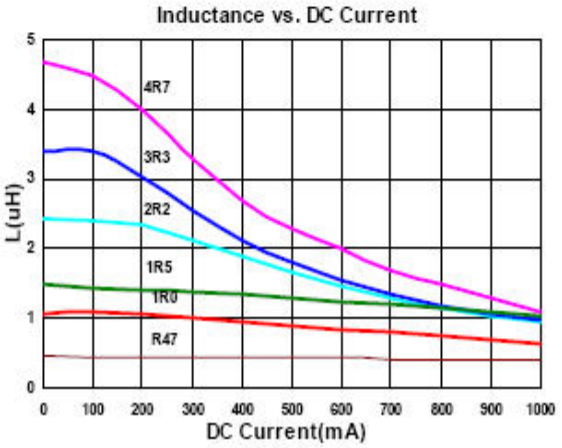
Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±25%	Isat (mA) Max	Irms (mA) Max
SMPB252010T-R47□-N	0.47	20, 30	3	0.04	1500	1800
SMPB252010T-1R0□-N	1.0	20, 30	3	0.055	900	1600
SMPB252010T-1R5□-N	1.5	20, 30	3	0.07±30%	800	1400
SMPB252010T-2R2□-N	2.2	20, 30	3	0.08	500	1300
SMPB252010T-3R3□-N	3.3	20, 30	3	0.10	400	1200
SMPB252010T-4R7□-N	4.7	20, 30	3	0.11	300	1100

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

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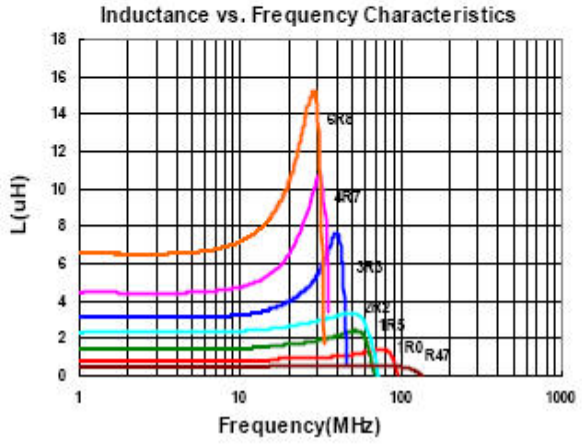
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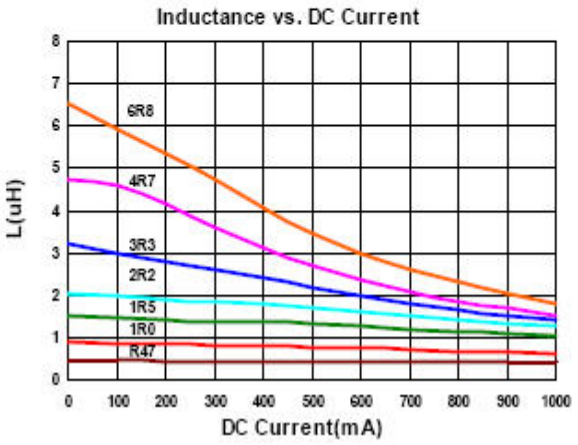
Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (mA) Max	Irms (mA) Max
SMPB252012T-R47□-N	0.47	20, 30	3	0.04	1500	1800
SMPB252012T-1R0□-N	1.0	20, 30	3	0.05	950	1600
SMPB252012T-1R5□-N	1.5	20, 30	3	0.07	900	1400
SMPB252012T-2R2□-N	2.2	20, 30	3	0.10	700	1200
SMPB252012T-3R3□-N	3.3	20, 30	3	0.12	500	1100
SMPB252012T-4R7□-N	4.7	20, 30	3	0.14	350	1000
SMPB252012T-6R8□-N	6.8	20, 30	3	0.16	250	900

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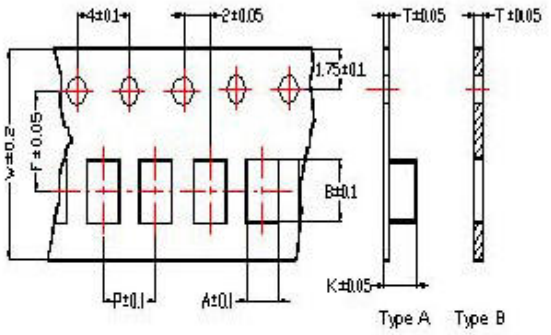




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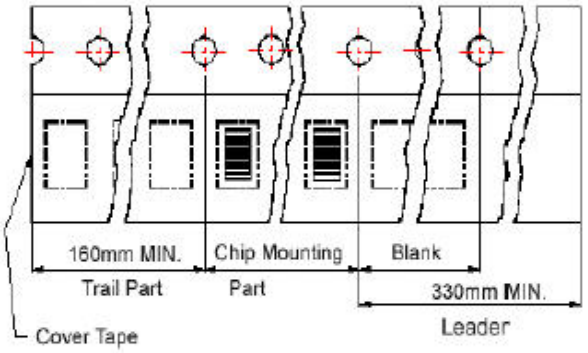
Packaging Specifications

Tape Dimensions

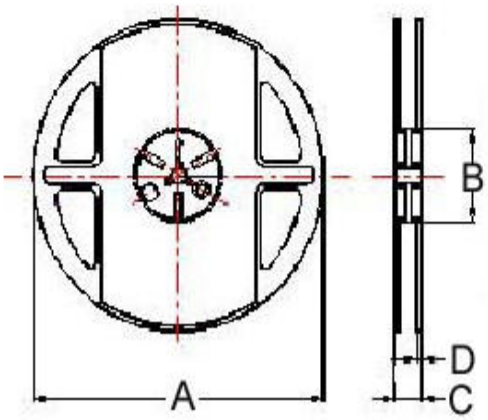


Tape Material

Carrier Tape: Polycarbonate (Tape A)
Carrier Tape: Paper (Tape B)
Cover Tape: Polystyrene



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape Type	A	B	C	D	PCS / REEL
160805	1.05	1.85	0.60	8.0	2.0	3.5	-	B	178	60	12	1.5	10000
160806	1.05	1.85	0.75	8.0	4.0	3.5	-	B	178	60	12	1.5	4000
160808	1.05	1.85	0.95	8.0	4.0	3.5	-	B	178	60	12	1.5	4000
201205	1.42	2.25	0.22	8.0	4.0	3.5	0.80	A	178	60	12	1.5	4000
201210	1.45	2.25	0.22	8.0	4.0	3.5	1.04	A	178	60	12	1.5	3000
201610	1.80	2.20	0.22	8.0	4.0	3.5	1.15	A	178	60	12	1.5	3000
252010	2.25	2.8	0.25	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000
252012	2.25	2.8	0.25	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000