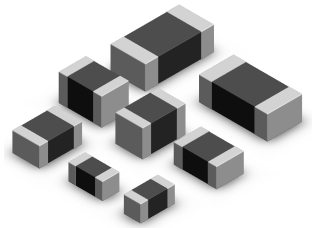
Chip Ferrite Bead for High Current

SCPB-S Series

Features

- Combination of high frequency noise suppression with capability of handing high current
- The current rating up to 6 A with low DCR



Applications

- High current DC power lines
- Circuits where a stable ground in unavailable

General Technical Data

Operating temperature range	-40 ~ +125°C
Storage Condition	Less than 40℃ and 70% RH
Storage Time	6 months(Size:1005), 12 months(Size:1608 above)
Soldering method	Reflow or Wave Soldering

Part Numbering

SCPB	**1608**	**S**	**12**	**1**	**P**	**P**	**F**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1 Series Name
2 Size Code: the first two digitals : length(mm), the last two digitals : width(mm)
3 Material Code
4 Impedance(Ω), ±25%
5 Fixed Decimal Point — e.g.: 600=60 Ω, 121=120Ω
6 Rated Current Cod

L=1000mA	M=1500mA	N=2000mA	P=2500mA
Q=3000mA	R=4000mA	U=5000mA	W=6000mA

8 Packaging: P - Embossed paper tape, 7" reel
T - Embossed plastic tape, 7" reel
7 Soldering : Green Parts: S-Soldering Lead-Free F- Lead-Free for whole chip

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Chip Ferrite Bead for High Current

SCPB-S Series

Electrical Characteristics

SCPB1005 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB1005S100NPF	10	100	0.09	2000
SCPB1005S300NPF	30	100	0.09	2000
SCPB1005S600LPF	60	100	0.20	1000
SCPB1005S121MPF	120	100	0.15	1500

SCPB1608 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB1608S300QPF	30	100	0.04	3000
SCPB1608S600QPF	60	100	0.04	3000
SCPB1608S800QPF	80	100	0.04	3000
SCPB1608S121PPF	120	100	0.07	2500
SCPB1608S221NPF	220	100	0.09	2000
SCPB1608S301NPF	300	100	0.09	2000
SCPB1608S451MPF	450	100	0.15	1500
SCPB1608S471LPF	470	100	0.20	1000
SCPB1608S601LPF	600	100	0.20	1000

SCPB2012 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB2012S310WPF	31	100	0.015	6000
SCPB2012S400RPF	40	100	0.03	4000
SCPB2012S600QPF	60	100	0.04	3000
SCPB2012S800UPF	80	100	0.02	5000
SCPB2012S121UPF	120	100	0.02	5000
SCPB2012S221QPF	220	100	0.04	3000
SCPB2012S301NPF	300	100	0.09	2000
SCPB2012S331NPF	330	100	0.09	2000
SCPB2012S601NPF	600	100	0.09	2000

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Chip Ferrite Bead for High Current

SCPB-S Series

Electrical Characteristics (Continue)

SCPB3216 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB3216S300WTF	30	100	0.015	6000
SCPB3216S500WTF	50	100	0.015	6000
SCPB3216S800RTF	80	100	0.03	4000
SCPB3216S121WTF	120	100	0.015	6000
SCPB3216S601PTF	600	100	0.07	2500
SCPB3216S122LTF	1200	100	0.20	1000

SCPB3225 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB3225S600MTF	60	100	0.15	1500
SCPB3225S102NTF	1000	100	0.09	2000

SCPB4516 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB4516S600WTF	60	100	0.015	6000
SCPB4516S851MTF	850	100	0.15	1500

SCPB4532 Series

Part Number	Impedance (Ω) ±25%	Test Freq. (MHz)	DCR (Ω) (Max.)	Rated Current (mA)
SCPB4532S121WTF	120	100	0.015	6000
SCPB4532S601QTF	600	50	0.04	3000
SCPB4532S132QTF	1300	60	0.04	3000
	Test Level：250 mV			
Test Instruments：	▪ HP4291B RF IMPEDANCE / MATERIAL ANALYZER ▪ HP4338A/B MILLIOHM METER ▪ Agilent 8720ES S-PARAMETER NETWORK ANALYZER ▪ HP6632B SYSTEM DC POWER SUPPLY			

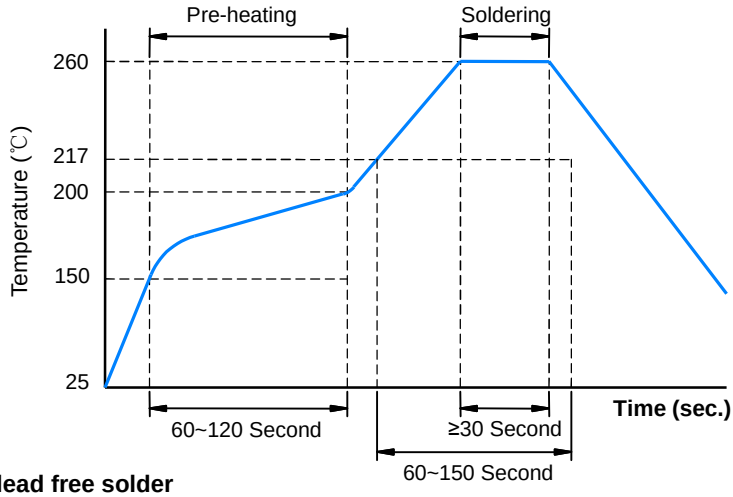
** For special part number which is not shown in the above table, please refer to appendix.

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Chip Ferrite Bead for High Current

SCPB-S Series

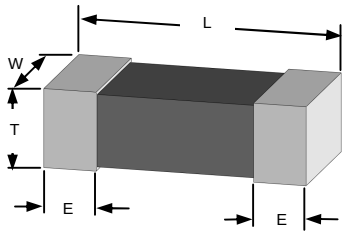
Recommended Soldering Conditions



For lead free solder

Construction & Dimensions

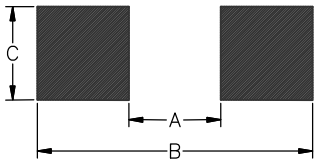
Unit: mm



Symbol	1005 (EIA 0402)	1608 (EIA 0603)	2012 (EIA 0805)	3216 (EIA 1206)	3225 (EIA 1210)	4516 (EIA 1806)	4532 (EIA 1812)
L	1.00±0.10	1.60±0.15	2.00±0.20	3.20±0.20	3.20±0.20	4.50±0.25	4.50±0.25
W	0.50±0.10	0.80±0.15	1.25±0.20	1.60±0.20	2.50±0.20	1.60±0.20	3.20±0.25
T	0.50±0.10	0.80±0.15	0.90±0.20	1.10±0.20	1.30±0.20	1.0±0.20	1.50±0.25
E	0.25±0.10	0.30±0.20	0.50±0.30	0.50±0.30	0.50±0.30	0.60±0.40	0.60±0.40

Recommended Pad Layout

Unit: mm



Size	A	B	C
1005	0.40~0.60	1.60~2.60	0.40~0.70
1608	0.50~0.70	2.10~3.10	0.65~0.95
2012	1.00~1.20	3.00~4.00	0.80~1.10
3216	2.00~2.40	4.20~5.20	1.00~1.40
3225	2.10~2.30	4.20~5.20	2.20~2.50
4516	3.40~3.70	6.30~7.30	1.30~1.70
4532	3.40~3.70	6.30~7.30	2.90~3.20

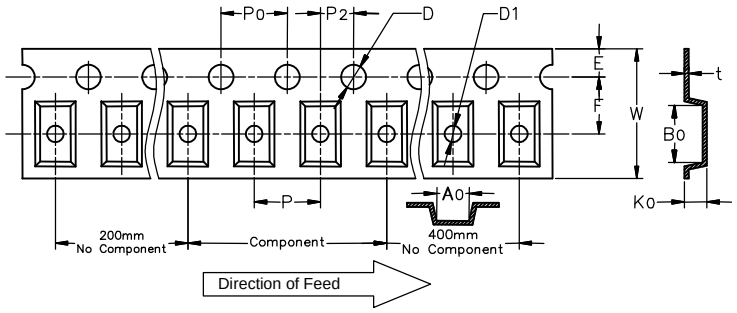
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Chip Ferrite Bead for High Current

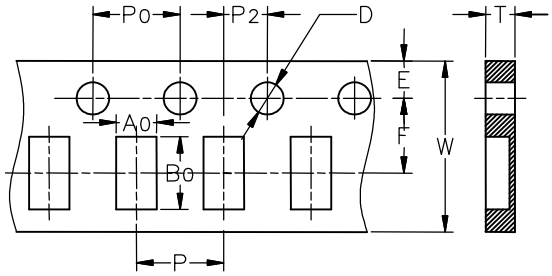
SCPB-S Series

Tape Specifications

PLASTIC CARRIER



PAPER CARRIER



Unit: mm

Symbol	1005	1608	2012	3216	3225	4516	4532
	Paper	Paper	Paper	Plastic	Plastic	Plastic	Plastic
W	8.00±0.10	8.00±0.10	8.00±0.10	7.90~8.30	7.90~8.30	11.7~12.3	12.00±0.10
P	2.00±0.05	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	8.00±0.10
E	1.75±0.05	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10
F	3.50±0.05	3.50±0.10	3.50±0.10	3.50±0.05	3.50±0.05	5.50±0.05	5.50±0.05
D	1.55±0.05	1.56±0.10	1.56±0.10	1.55±0.05	1.55±0.05	1.55±0.05	1.55±0.05
D1	NA	NA	NA	0.95~1.20	0.95~1.20	1.50~1.75	1.50~1.75
P	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10
$P_0$10	NA	NA	40.0±0.20	40.0±0.20	40.0±0.20	40.0±0.20	40.0±0.20
P2	2.00±0.05	2.00±0.10	2.00±0.10	2.00±0.05	2.00±0.05	2.00±0.05	2.00±0.05
A0	0.62±0.03	1.05±0.05	1.50±0.05	1.85±0.10	2.57±0.10	1.83±0.10	3.66±0.10
B0	1.12±0.03	1.85±0.05	2.30±0.05	3.43±0.10	3.40±0.10	4.85±0.10	4.95±0.10
K0(T)	0.60±0.03	0.95±0.05	0.95±0.05	1.22±0.10	1.32±0.10	1.83±0.10	1.83±0.10
t	NA	NA	NA	0.25±0.10	0.25±0.10	0.29±0.10	0.23±0.10

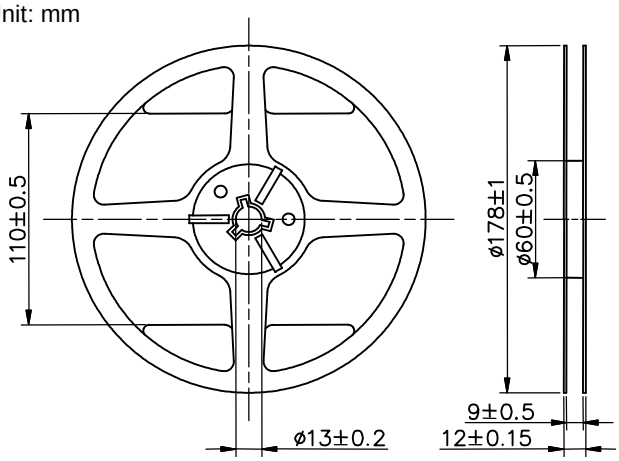
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Chip Ferrite Bead for High Current

SCPB-S Series

Reel Specifications & Packaging

Unit: mm



Part Size(EIA Size)	Packaging Option	Quantity
1005 (0402)	7″Reel	10,000
1608 (0603)	7″Reel	4,000
2012 (0805)	7″Reel	4,000
3216 (1206)	7″Reel	3,000
3225 (1210)	7″Reel	2,000
4516 (1806)	7″Reel	2,000
4532 (1812)	7″Reel	1,000

The Contents of a box:

1005 (0402): 6 reels / inner box
1608 (0603): 6 reels / inner box
2012 (0805): 6 reels / inner box
3216 (1206): 6 reels / inner box
3225 (1210): 6 reels / inner box
4516 (1806): 4 reels / inner box
4532 (1812): 4 reels / inner box

Reliability and Test Condition

Test item	Test condition	Criteria
Temperature Cycle	a. Temperature : -40 ~ +85℃ b. Cycle : 100 cycles c. Dwell time : 30minutes Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Induction value should be within ±20 % of the initial value
Operational Life	a. Temperature : 125℃±5℃ b. Test time : 1000 hrs c. Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Induction value should be within ±20 % of the initial value
Biased Humidity	a. Temperature : 40℃±2℃ b. Humidity : 90 ~ 95 % RH c. Test time : 1000 hrs d. Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Induction value should be within ±20 % of the initial value
Resistance to Solder Heat	a. Solder temperature : 260±5℃ b. Flux : Rosin c. DIP time : 10±1 sec	a. More than 95 % of terminal electrode should be covered with new solder b. No mechanical damage c. Induction value should be within ±20 % of the initial value
Adhesive Test	a. Reflow temperature : 245℃ It shall be Soldered on the substrate applying direction parallel to the substrate b. Apply force(F) : 5 N Test time : 10 sec	a. No mechanical damage b. Soldering the products on PCB after the pulling test force > 5 N
Rated Current Test	a. Apply current : full rated current / 5min	Temperature rise should be less than 25℃
Steam Aging Test	a. Temperature : 93℃ b. Test time : 4hrs Others: 8hrs c. Solder temperature : 235±5℃ d. Flux : Rosin e. DIP time : 5±1 sec	More than 95 % of terminal electrode should be covered with new solder

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