

SDB SMD FLAT WIRE COILS



Applications

- Laptop/Desktop/Notebook Computers
- Terminals/Portable Servers/Workstations
- Thin type on-board power supply module for exchanger
- DC/DC converter in distributed power systems or VRM applications

Features

- Large current Adaptable
- Footprint compatible with most standard
- Lower temperature rise at Large current
- Low profile, low DCR.
- Available on tape and reel for auto surface mounting.

Inductance and rated current ranges

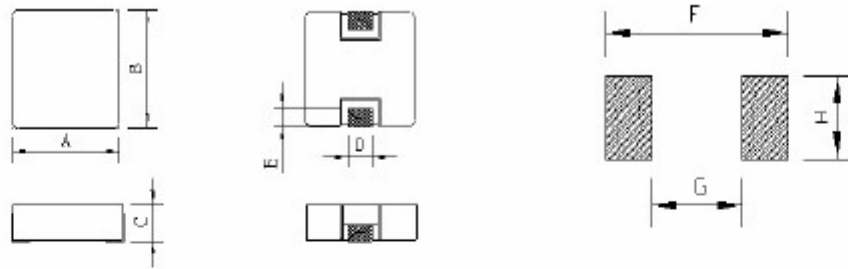
- SDB1040 0.19uH~3.3uH @DC Rated Current:44~ 12A, DCR 0.65~11.0m Ω MAX.
- SDB1240 0.15uH~3.3uH @DC Rated Current:75~ 20A, DCR 1.3~13.0m Ω MAX
- SDB1250 0.22uH~3.3uH @DC Rated Current:110~ 29A, DCR 0.85~9.70m Ω MAX
- SDB1265 0.10uH~3.3uH @DC Rated Current:120~ 27A, DCR 0.60~7.15m Ω MAX

- Test equipments:

L: Zentech-3305

DCR: Zentech-1320CH502BC

Dimension



Unit: mm

TYPE	A	B	C	D	E	F	G	H
SDB1040	10.5±0.5	11.5±1.0	4.2 Max	2.0±0.5	2.3±0.5	13.0	6.0	4.0
SDB1240	12.8±0.5	13.5±1.0	4.0 Max	3.8±1.0	2.5±0.5	15.0	6.0	5.0
SDB1250	12.8±0.5	13.5±1.0	5.0 Max	3.8±1.0	2.5±0.5	15.0	6.0	5.0
SDB1265	12.8±0.5	13.5±1.0	6.5 Max	3.8±1.0	2.5±0.5	15.0	6.0	5.0

Product Identification

SDB 1040 M T 3R3
 (1) (2) (3) (4) (5)

(1)Type: SMD Power Inductors

(2)Dimensions(mm): 1040=10.5×11.5×4.0 , 1240=12.8×13.5×4.0 ,
 1250=12.8×13.5×5.0 , 1265=12.8×13.5×6.5

(3)Tolerance: M=20%

(4) Packaging style: T (Tape and Reel)

(5) Inductance:R47=0.47uH ,3R3=3.3uH



Electrical Characteristics

● 1040 TYPE

L1 100KHz/1V L-0A(uH) Tolerance±20%	Inductance (at25°C)				
	Height	Typical Saturation DC Current	Typical Heat Rating DC Current	DC resistance(25°C) (mΩ)	
	Max (mm)	Measurement Current(A)	Measurement Current(A)	Typical	Max
0.19	4.0	44	44	0.50	0.65
0.24	4.0	38	38	0.70	0.85
0.36	4.0	35	35	0.85	1.00
0.47	4.0	32	32	1.20	1.40
0.56	4.0	30	30	1.25	1.40
0.68	4.0	26	26	1.60	1.90
0.78	4.0	25	25	1.90	2.20
1.00	4.0	20	20	2.20	2.60
1.50	4.2	20	15	4.50	5.00
1.80	4.2	15	15	4.50	5.30
2.00	4.2	13	13	5.20	6.10
2.50	4.2	13	13	5.50	6.30
3.30	4.2	12	10	9.00	11.00

- ⊙ All test Data is referenced to 25°C ambient
- ⊙ Typical Saturation DC Current would cause Lo to drop approximately 20%
- ⊙ Typical Heat Rating DC Current would cause an approximately ΔT of 40°C
- ⊙ The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.



1240 TYPE

L1 100KHz/1V L-0A(uH) Tolerance±20%	Inductance (at25°C)			
	Typical Saturation DC Current	Typical Heat Rating DC Current	DC resistance(25°C) (mΩ)	
	Measurement Current(A)	Measurement Current(A)	Typical	Max
0.15	75	41	1.00	1.30
0.22	65	38.5	1.10	1.40
0.33	62	36.5	1.30	1.60
0.36	62	36.5	1.30	1.60
0.47	55	32	1.40	1.90
0.60	51	29	1.80	2.30
0.68	46	28	2.10	2.50
0.80	33	25	2.50	3.20
0.82	41	25	2.60	3.20
0.90	38	24	3.00	3.70
1.00	38	24	3.00	3.70
1.50	31	19	5.10	5.80
1.8	27	16	6.50	7.40
2.2	21	16	7.60	8.70
3.3	20	14	11.0	13.0

All test Data is referenced to 25°C ambient

Typical Saturation DC Current would cause Lo to drop approximately 20%

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C

The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.



1250 TYPE

L1 100KHz/1V L-0A(uH) Tolerance±20%	Inductance (at25°C)			
	Typical Saturation DC Current	Typical Heat Rating DC Current	DC resistance(25°C) (mΩ)	
	Measurement Current(A)	Measurement Current(A)	Typical	Max
0.22	110	51	0.64	0.85
0.33	80	42	0.85	1.15
0.36	80	42	0.85	1.15
0.47	65	38	1.10	1.40
0.56	55	36	1.30	1.60
0.68	51	34	1.50	1.80
0.82	50	31	2.00	2.40
1.00	47.5	29	2.10	2.65
1.50	43	23	3.60	4.30
1.80	36	19	4.20	5.15
2.00	31	20	5.30	6.10
2.20	29	20	4.60	5.80
3.30	29	15	7.70	9.70

All test Data is referenced to 25°C ambient

Typical Saturation DC Current would cause Lo to drop approximately 20%

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C

The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.



1265 TYPE

L1 100KHz/1V L-0A(uH) Tolerance±20%	Inductance (at25°C)			
	Typical Saturation DC Current	Typical Heat Rating DC Current	DC resistance(25°C) (mΩ)	
	Measurement Current(A)	Measurement Current(A)	Typical	Max
0.10	120	60	0.50	0.60
0.15	110	55	0.55	0.65
0.22	100	53	0.65	0.75
0.30	76	48	0.70	0.85
0.33	65	46	0.85	1.00
0.36	65	46	0.85	1.00
0.40	64	44	0.90	1.05
0.47	63	41	1.00	1.30
0.56	59	37	1.20	1.50
0.68	57	35	1.40	1.70
0.82	48	33	1.60	2.05
1.00	46	32	1.70	2.10
1.20	45	30	2.10	2.60
1.50	40	27	2.50	3.15
1.80	36	24	2.80	3.40
2.20	36	22	3.80	4.80
3.30	27	18	5.70	7.15

All test Data is referenced to 25°C ambient

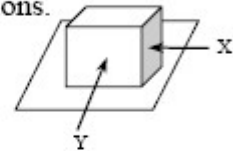
Typical Saturation DC Current would cause Lo to drop approximately 20%

Typical Heat Rating DC Current would cause an approximately ΔT of 40°C

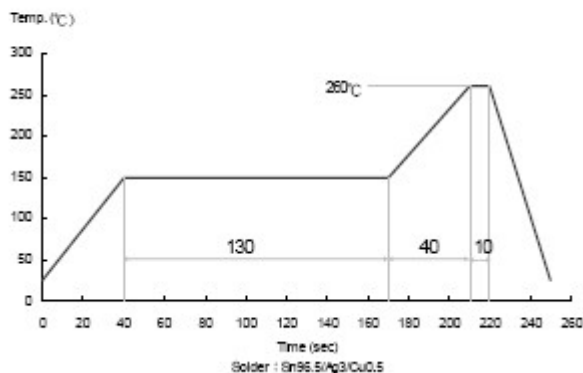
The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.

General Characteristics

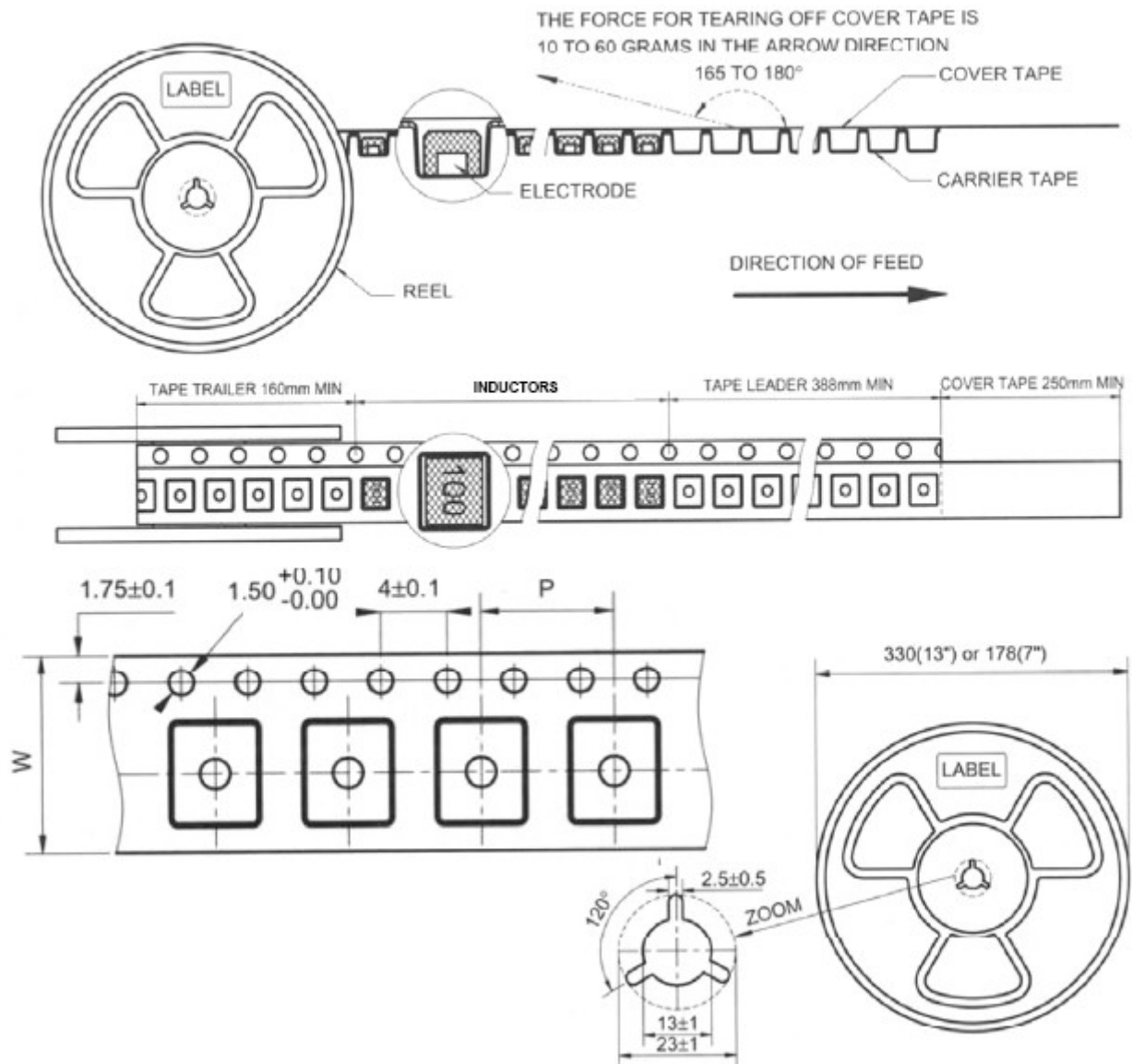
Test Items		Test Conditions / Test Methods
1.	Operating Temperature	-30~80°C (Contain Heating coil)
2.	Appearance Inspection	No external defects by visual inspection
3.	Terminal Strength	After soldering, between copper plant and terminals of coil, push in two directions of X, Y with standing as below conditions. Terminal should not peel off. (Refer to figure at right) 10.0N 10±2sec.
4.	Insulating Resistance	Over 100MΩ at 100V D.C. between wire and core. Meanwhile no structure and electric defects should be found for 1 minute
5.	Temperature characteristics	Inductance coefficient is (0~2,000)×10 ⁻⁶ (-25~+85°C)
6.	Humidity Test	Inductance deviation within ±5%, after 96 hours in 90~95% relative humidity at 40±2°C and 1 hour drying under normal condition.
7.	Vibration Test	Inductance deviation within ±5%, after vibration for 1 hour. In each of three orientations at sweep vibration (10→55→10Hz) with 1.5mm p-p amplitude.
8.	Shock Test	Inductance deviation is within ±5% after the test with GOM-BLOCK Testing machine, once in each of the three perpendicular axis directions. The shock acceleration is 981m/s ² .



The condition of reflow (recommendation):



Tape and Reel specifications



Series	Tape size		Parts Per Reel
	W	P	13"
SDB1040	24	16	800
SDB1240	24	16	500
SDB1250	24	16	500
SDB1265	24	16	400