Data Sheet

Customer:	
Product:	**Shielded Molding SMD Power Inductor– SDB Series**
Sizes.:	**0420/0520/0530/0620/0625/0630/1040/1340/ 1350/1365**
Issued Date:	**27-Jun-19**
Edition:	**REV.B8**

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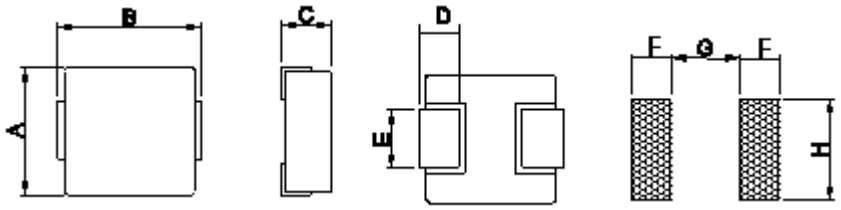
Shielded Molding SMD Power Inductor



■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

■Applications

- Laptop / Desktop / Notebook Computers
- Terminals / Portable Servers / Workstation
- DC/DC Converter in Distributed Power Systems or VRM Applications
- Thin Type On-board Power Supply Module for Exchanger

■Characteristics

- Saturation Rated Current would cause inductance to drop approximately 25%(0402 drop approximately 30%)
- Temperature Rise Current would cause an approximately ▵ T of 40°C
- All test data is referred to 25°C ambient

■Dimensions

Unit: mm

Type	A	B	C max.	D	E	F	G	H
SDB0420	4.1±0.5	4.5±0.5	2.1	0.8±0.5	2.0±0.5	1.5	2.5	2.2
SDB0520	5.0±0.5	5.5±0.5	2.0	1.2±0.5	2.0±0.5	2.0	3.0	2.5
SDB0530	5.0±0.5	5.5±0.5	3.0	1.2±0.5	2.0±0.5	2.0	3.0	2.5
SDB0620	6.8 max	7.6 max	2.0	1.6±0.5	2.9±0.5	2.5	3.7	3.5
SDB0625	6.8 max	7.6 max	2.5	1.6±0.5	2.9±0.5	2.5	3.7	3.5
SDB0630	6.8 max	7.6 max	3.0	1.6±0.5	2.9±0.5	2.5	3.7	3.5
SDB0650	6.8 max	7.6 max	5.0	1.6±0.5	2.9±0.5	2.5	3.7	3.5
SDB1040	10.4 max	11.5 max	4.0	2.2±0.5	2.9±0.5	3.5	6.0	4.0
SDB1340	13.0 max	14.2 max	4.0	2.3±0.5	3.6±0.5	2.9	7.9	5.0
SDB1350	13.0 max	14.2 max	5.0	2.3±0.5	3.6±0.5	2.9	7.9	5.0
SDB1365	13.0 max	14.2 max	6.5	2.3±0.5	3.6±0.5	2.9	7.9	5.0

■Inductance and rated current ranges

- SDB0420 0.10μH～3.3μH @Saturation Current: 22～4A
- SDB0520 0.10μH～4.7μH @Saturation Current: 45～5A
- SDB0530 0.10μH～4.7μH @Saturation Current: 27～8.2A
- SDB0620 0.10μH～4.7μH @Saturation Current: 40～8A
- SDB0625 0.10μH～10μH @Saturation Current: 50～7A
- SDB0630 0.10μH～22μH @Saturation Current: 60～4.5A
- SDB0650 0.56μH～10μH @Saturation Current: 12～4.5A
- SDB1040 0.19μH～15μH @Saturation Current: 90～8A
- SDB1340 0.10μH～10μH @Saturation Current: 84～14A
- SDB1350 0.10μH～10μH @Saturation Current: 118～16A
- SDB1365 0.10μH～22μH @Saturation Current: 120～10A
- Test equipment:
  L: HP4284A LCR meter
  DCR: Milli-ohm meter
- Electrical specifications at 25°C
- Operating temperature rang: -40°C～+125°C

■Product Identification

SDB	0630	M	T	100
Product Type	Dimensions (AxC)	Inductor Tolerance	Packaging Style	Inductance
	0420: 4.1×2.1 0520: 5.0×2.0 0530: 5.0×3.0 0620: 6.8×2.0 0625: 6.8×2.5 0630: 6.8×3.0 0650: 6.8×5.0 1040: 10.4×4.0 1340: 13.0×4.0 1350: 13.0×5.0 1365: 13.0×6.5	M: ±20%	T: Tape and Reel	R10: 0.10μH 1R0: 1.0μH 100: 10μH

■Electrical Characteristics

SDB0420 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0420□TR10	0.10	M	100KHz, 0.25V	4.0	22.0	12.0
SDB0420□TR22	0.22	M	100KHz, 0.25V	6.6	12.5	9.0
SDB0420□TR47	0.47	M	100KHz, 0.25V	14	9.5	7.0
SDB0420□TR56	0.56	M	100KHz, 0.25V	16	8.5	6.5
SDB0420□TR68	0.68	M	100KHz, 0.25V	18	9.0	6.0
SDB0420□T1R0	1.0	M	100KHz, 0.25V	27	7.0	4.5
SDB0420□T1R5	1.5	M	100KHz, 0.25V	46	6.0	4.0
SDB0420□T2R2	2.2	M	100KHz, 0.25V	58	5.0	3.0
SDB0420□T3R3	3.3	M	100KHz, 0.25V	87	4.0	2.5

SDB0520 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0520□TR10	0.10	M	100KHz, 0.25V	3.9	45.0	17.0
SDB0520□TR22	0.22	M	100KHz, 0.25V	5.2	22.0	15.0
SDB0520□TR33	0.33	M	100KHz, 0.25V	8.2	25.0	12.0
SDB0520□TR47	0.47	M	100KHz, 0.25V	9.4	21.0	11.5
SDB0520□TR68	0.68	M	100KHz, 0.25V	12.4	15.0	10.0
SDB0520□T1R0	1.0	M	100KHz, 0.25V	20.0	16.0	7.0
SDB0520□T2R2	2.2	M	100KHz, 0.25V	50.1	9.5	4.2
SDB0520□T3R3	3.3	M	100KHz, 0.25V	85.5	8.5	3.3
SDB0520□T4R7	4.7	M	100KHz, 0.25V	116.6	5.0	2.8

■Electrical Characteristics

SDB0530 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0530□TR10	0.10	M	100KHz, 0.25V	3.16	27.0	23.0
SDB0530□TR22	0.22	M	100KHz, 0.25V	4.52	21.0	15.5
SDB0530□TR33	0.33	M	100KHz, 0.25V	5.56	19.0	13.7
SDB0530□TR47	0.47	M	100KHz, 0.25V	7.04	16.0	12.2
SDB0530□TR68	0.68	M	100KHz, 0.25V	8.96	13.5	10.2
SDB0530□TR82	0.82	M	100KHz, 0.25V	11.9	13.0	9.3
SDB0530□T1R0	1.0	M	100KHz, 0.25V	13.7	12.0	9.2
SDB0530□T1R5	1.5	M	100KHz, 0.25V	20.7	11.0	7.2
SDB0530□T2R2	2.2	M	100KHz, 0.25V	29.2	10.0	5.8
SDB0530□T3R3	3.3	M	100KHz, 0.25V	54.7	8.5	5.0
SDB0530□T4R7	4.7	M	100KHz, 0.25V	77.5	8.2	3.5

SDB0620 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0620□TR10	0.10	M	100KHz, 0.25V	3.5	40.00	18.00
SDB0620□TR15	0.15	M	100KHz, 0.25V	5.2	38.00	15.00
SDB0620□TR22	0.22	M	100KHz, 0.25V	5.7	26.00	14.00
SDB0620□TR33	0.33	M	100KHz, 0.25V	7.0	18.00	12.00
SDB0620□TR47	0.47	M	100KHz, 0.25V	9.3	18.00	11.00
SDB0620□TR68	0.68	M	100KHz, 0.25V	13.9	17.00	9.00
SDB0620□TR82	0.82	M	100KHz, 0.25V	15.9	17.00	8.00
SDB0620□T1R0	1.0	M	100KHz, 0.25V	18.3	14.00	7.00
SDB0620□T1R5	1.5	M	100KHz, 0.25V	34.0	13.00	4.00
SDB0620□T2R2	2.2	M	100KHz, 0.25V	46.0	11.50	3.75
SDB0620□T3R3	3.3	M	100KHz, 0.25V	60.1	10.00	3.25
SDB0620□T4R7	4.7	M	100KHz, 0.25V	78.0	8.00	3.00

SDB0625 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0625□TR10	0.10	M	100KHz, 0.25V	1.7	50.0	30.0
SDB0625□TR22	0.22	M	100KHz, 0.25V	3.2	34.0	21.0
SDB0625□TR33	0.33	M	100KHz, 0.25V	4.1	22.0	18.0
SDB0625□TR47	0.47	M	100KHz, 0.25V	6.5	21.0	13.5
SDB0625□TR68	0.68	M	100KHz, 0.25V	9.4	18.0	11.0
SDB0625□TR82	0.82	M	100KHz, 0.25V	11.8	17.0	10.0
SDB0625□T1R0	1.0	M	100KHz, 0.25V	14.2	16.0	9.0
SDB0625□T1R5	1.5	M	100KHz, 0.25V	21.2	15.0	7.5
SDB0625□T2R2	2.2	M	100KHz, 0.25V	34.0	14.0	6.5
SDB0625□T3R3	3.3	M	100KHz, 0.25V	51.6	13.0	5.0
SDB0625□T4R7	4.7	M	100KHz, 0.25V	63.0	10.0	4.5
SDB0625□T6R8	6.8	M	100KHz, 0.25V	95.0	9.0	3.5
SDB0625□T8R2	8.2	M	100KHz, 0.25V	106.0	8.0	3.0
SDB0625□T100	10	M	100KHz, 0.25V	129.0	7.0	2.5

■Electrical Characteristics

SDB0630 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0630□TR10	0.10	M	100KHz, 0.25V	1.7	60.0	32.5
SDB0630□TR22	0.22	M	100KHz, 0.25V	2.8	40.0	23.0
SDB0630□TR33	0.33	M	100KHz, 0.25V	3.9	30.0	20.0
SDB0630□TR47	0.47	M	100KHz, 0.25V	4.2	26.0	17.5
SDB0630□TR56	0.56	M	100KHz, 0.25V	4.5	24.5	16.5
SDB0630□TR68	0.68	M	100KHz, 0.25V	5.5	25.0	15.5
SDB0630□TR82	0.82	M	100KHz, 0.25V	8.0	24.0	13.0
SDB0630□T1R0	1.0	M	100KHz, 0.25V	10.0	22.0	11.0
SDB0630□T1R5	1.5	M	100KHz, 0.25V	15.0	18.0	9.0
SDB0630□T2R2	2.2	M	100KHz, 0.25V	20.0	14.0	8.0
SDB0630□T3R3	3.3	M	100KHz, 0.25V	30.0	13.5	6.0
SDB0630□T4R7	4.7	M	100KHz, 0.25V	40.0	10.0	5.5
SDB0630□T6R8	6.8	M	100KHz, 0.25V	60.0	8.0	4.5
SDB0630□T8R2	8.2	M	100KHz, 0.25V	68.0	7.5	4.0
SDB0630□T100	10	M	100KHz, 0.25V	105.0	7.0	3.0
SDB0630□T220	22	M	100KHz, 0.25V	160.0	4.5	2.5
SDB0630□T220-1	22	M	100KHz, 1V	190.0	3.5 Typ	2.0 Typ

SDB0650 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB0650□TR56	0.56	M	100KHz, 0.25V	3.6	12.0	20.0
SDB0650□TR68	0.68	M	100KHz, 0.25V	4.5	11.5	18.0
SDB0650□TR82	0.82	M	100KHz, 0.25V	4.9	13.0	16.5
SDB0650□T1R0	1.0	M	100KHz, 0.25V	6.5	15.0	13.0
SDB0650□T1R5	1.5	M	100KHz, 0.25V	9.0	12.0	12.0
SDB0650□T2R2	2.2	M	100KHz, 0.25V	13.6	10.0	10.0
SDB0650□T3R3	3.3	M	100KHz, 0.25V	20.9	8.0	8.0
SDB0650□T4R7	4.7	M	100KHz, 0.25V	30.3	7.0	6.5
SDB0650□T5R6	5.6	M	100KHz, 0.25V	34.4	7.0	6.0
SDB0650□T6R8	6.8	M	100KHz, 0.25V	44.6	5.5	5.5
SDB0650□T8R2	8.2	M	100KHz, 0.25V	50.7	5.0	5.0
SDB0650□T100	10	M	100KHz, 0.25V	71.3	4.5	4.5

■Electrical Characteristics

SDB1040 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB1040□TR19	0.19	M	100KHz, 0.25V	0.95	90.0	40.0
SDB1040□TR22	0.22	M	100KHz, 0.25V	0.95	90.0	40.0
SDB1040□TR36	0.36	M	100KHz, 0.25V	1.40	60.0	31.5
SDB1040□TR47	0.47	M	100KHz, 0.25V	1.60	38.0	26.0
SDB1040□TR56	0.56	M	100KHz, 0.25V	1.80	49.0	27.5
SDB1040□TR68	0.68	M	100KHz, 0.25V	2.40	42.0	23.0
SDB1040□T1R0	1.0	M	100KHz, 0.25V	4.10	36.0	17.5
SDB1040□T1R5	1.5	M	100KHz, 0.25V	5.80	27.5	15.0
SDB1040□T2R2	2.2	M	100KHz, 0.25V	9.00	25.6	12.0
SDB1040□T3R3	3.3	M	100KHz, 0.25V	11.80	18.6	10.0
SDB1040□T4R7	4.7	M	100KHz, 0.25V	16.50	17.0	9.5
SDB1040□T5R6	5.6	M	100KHz, 0.25V	19.30	16.0	8.5
SDB1040□T6R8	6.8	M	100KHz, 0.25V	23.30	13.5	8.0
SDB1040□T100	10	M	100KHz, 0.25V	36.50	12.0	6.8
SDB1040□T150	15	M	100KHz, 0.25V	60.00	8.0	5.0

SDB1340 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB1340□TR10	0.10	M	100KHz, 0.25V	0.96	84.0	43.0
SDB1340□TR15	0.15	M	100KHz, 0.25V	1.20	75.0	41.0
SDB1340□TR22	0.22	M	100KHz, 0.25V	1.30	65.0	38.5
SDB1340□TR33	0.33	M	100KHz, 0.25V	1.50	62.0	36.5
SDB1340□TR47	0.47	M	100KHz, 0.25V	2.00	55.0	32.0
SDB1340□TR60	0.60	M	100KHz, 0.25V	2.20	51.0	29.0
SDB1340□TR68	0.68	M	100KHz, 0.25V	2.50	49.0	28.0
SDB1340□TR82	0.82	M	100KHz, 0.25V	3.00	44.0	25.0
SDB1340□T1R0	1.0	M	100KHz, 0.25V	3.50	40.0	24.0
SDB1340□T1R5	1.5	M	100KHz, 0.25V	5.50	35.0	19.0
SDB1340□T1R8	1.8	M	100KHz, 0.25V	7.00	30.0	16.5
SDB1340□T2R2	2.2	M	100KHz, 0.25V	8.00	29.0	16.0
SDB1340□T3R3	3.3	M	100KHz, 0.25V	12.00	27.0	12.0
SDB1340□T4R7	4.7	M	100KHz, 0.25V	15.00	24.0	10.0
SDB1340□T5R6	5.6	M	100KHz, 0.25V	19.00	19.0	9.5
SDB1340□T6R8	6.8	M	100KHz, 0.25V	22.00	18.0	9.0
SDB1340□T8R2	8.2	M	100KHz, 0.25V	28.00	16.0	8.5
SDB1340□T100	10	M	100KHz, 0.25V	34.00	14.0	7.0

■Electrical Characteristics

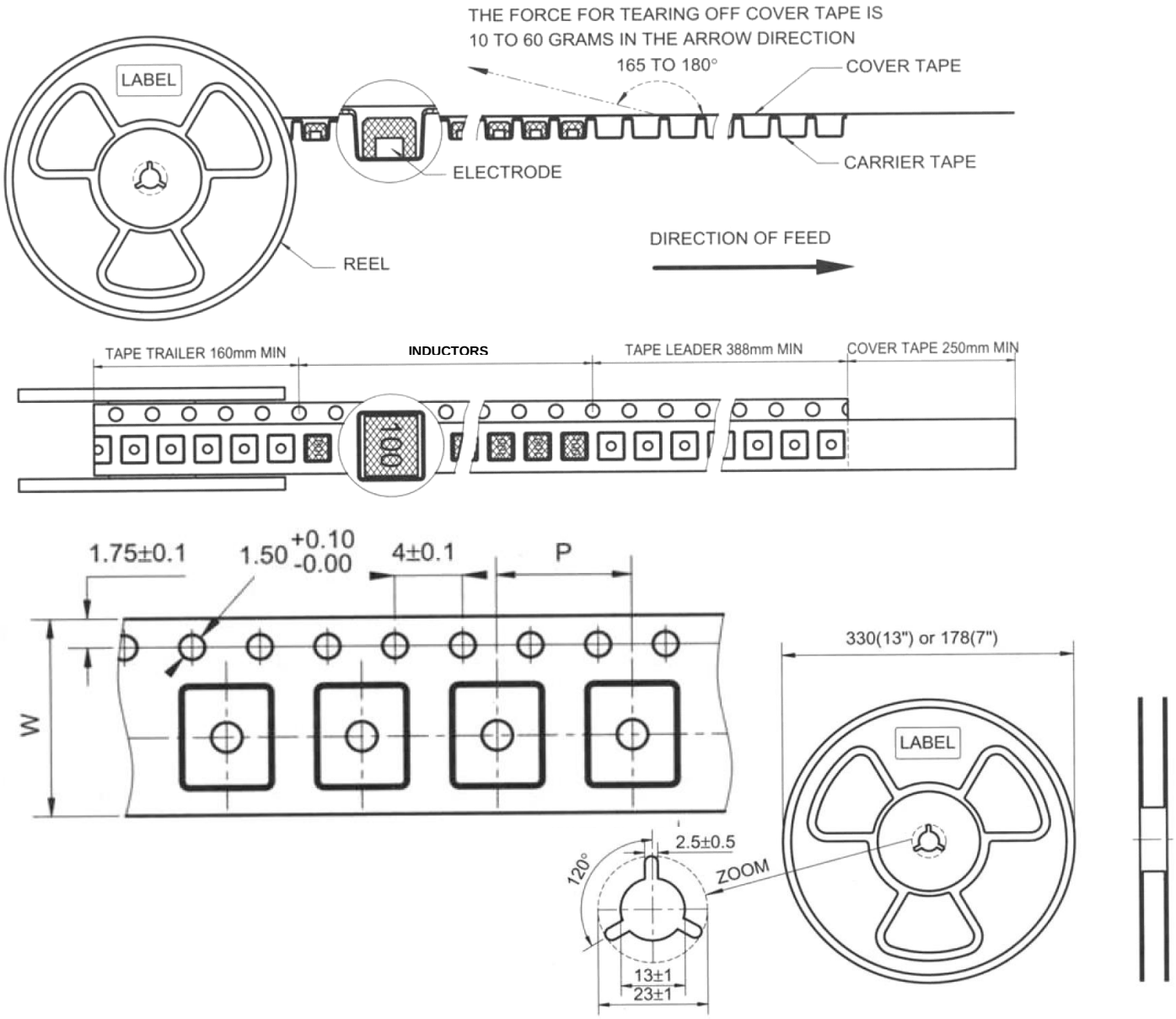
SDB1350 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB1350□TR10	0.10	M	100KHz, 0.25V	0.6	118.0	55.0
SDB1350□TR22	0.22	M	100KHz, 0.25V	0.8	110.0	51.0
SDB1350□TR33	0.33	M	100KHz, 0.25V	1.1	80.0	42.0
SDB1350□TR47	0.47	M	100KHz, 0.25V	1.3	65.0	38.0
SDB1350□TR56	0.56	M	100KHz, 0.25V	1.5	55.0	36.0
SDB1350□TR68	0.68	M	100KHz, 0.25V	1.7	54.0	34.0
SDB1350□TR82	0.82	M	100KHz, 0.25V	2.3	53.0	31.0
SDB1350□T1R0	1.0	M	100KHz, 0.25V	2.5	50.0	29.0
SDB1350□T1R5	1.5	M	100KHz, 0.25V	4.1	48.0	23.0
SDB1350□T1R8	1.8	M	100KHz, 0.25V	4.9	40.0	19.0
SDB1350□T2R2	2.2	M	100KHz, 0.25V	5.5	32.0	20.0
SDB1350□T3R3	3.3	M	100KHz, 0.25V	9.2	32.0	15.0
SDB1350□T4R7	4.7	M	100KHz, 0.25V	15.0	27.0	12.0
SDB1350□T5R6	5.6	M	100KHz, 0.25V	16.5	22.0	11.5
SDB1350□T6R8	6.8	M	100KHz, 0.25V	18.5	21.0	11.0
SDB1350□T7R8	7.8	M	100KHz, 0.25V	20.5	18.0	10.0
SDB1350□T8R2	8.2	M	100KHz, 0.25V	22.5	18.0	9.5
SDB1350□T100	10	M	100KHz, 0.25V	25.5	16.0	9.0

SDB1365 Type(□:Tolerance):

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
SDB1365□TR10	0.10	M	100KHz, 0.25V	0.5	120.0	60.0
SDB1365□TR15	0.15	M	100KHz, 0.25V	0.6	118.0	55.0
SDB1365□TR22	0.22	M	100KHz, 0.25V	0.7	112.0	53.0
SDB1365□TR30	0.30	M	100KHz, 0.25V	0.8	72.0	48.0
SDB1365□TR33	0.33	M	100KHz, 0.25V	0.9	65.0	46.0
SDB1365□TR40	0.40	M	100KHz, 0.25V	1.0	64.0	44.0
SDB1365□TR47	0.47	M	100KHz, 0.25V	1.2	63.0	41.0
SDB1365□TR56	0.56	M	100KHz, 0.25V	1.4	62.0	37.0
SDB1365□TR68	0.68	M	100KHz, 0.25V	1.6	60.0	35.0
SDB1365□TR82	0.82	M	100KHz, 0.25V	1.9	50.0	33.0
SDB1365□T1R0	1.0	M	100KHz, 0.25V	2.0	49.0	32.0
SDB1365□T1R0-1	1.0	M	100KHz, 1V	2.0	49.0	32.0
SDB1365□T1R2	1.2	M	100KHz, 0.25V	2.5	48.0	30.0
SDB1365□T1R5	1.5	M	100KHz, 0.25V	3.0	45.0	27.0
SDB1365□T1R8	1.8	M	100KHz, 0.25V	3.2	41.0	24.0
SDB1365□T2R2	2.2	M	100KHz, 0.25V	4.2	40.0	22.0
SDB1365□T3R3	3.3	M	100KHz, 0.25V	6.8	35.0	18.0
SDB1365□T4R7	4.7	M	100KHz, 0.25V	8.7	32.0	13.5
SDB1365□T5R6	5.6	M	100KHz, 0.25V	10.0	32.0	13.5
SDB1365□T6R8	6.8	M	100KHz, 0.25V	14.0	16.5	11.5
SDB1365□T8R2	8.2	M	100KHz, 0.25V	15.5	16.0	10.5
SDB1365□T100	10	M	100KHz, 0.25V	17.2	15.5	10.0
SDB1365□T100-1	10	M	100KHz, 1V	17.2	15.5	10.0
SDB1365□T220	22	M	100KHz, 0.25V	40.0	10.0	10.0

■Tape and Reel specifications



Unit: mm

Type	Tape size		Parts Per Reel
	W	P	13″
SDB0420	12	8	3500
SDB0520	12	8	3000
SDB0530	12	8	2500
SDB0620	16	12	2000
SDB0625	16	12	2000
SDB0630	16	12	1500
SDB0650	16	12	800
SDB1040	24	16	800
SDB1340	24	16	500
SDB1350	24	16	500
SDB1365	24	16	500

■General Characteristics

Item	Requirement	Test Method
Solderability	More than 90% of the terminal electrode should be covered with solder	230±5°C for 4±1 seconds
Solder Heat Resistance	Inductance within±20% of initial value No disconnection or short circuit The appearance shall not break	260±5°C for 10±1 seconds
Heat Resistance		Temperature: 125±5°C Time: 500 hours Tested after 2 hour at room temperature
Cold Resistance		Temperature: -40±5°C Time: 500 hours Tested after 2 hour at room temperature
Thermal Shock		One cycle:
Humidity Resistance		Temperature: 40±2°C, 90~95% relative humidity Time: 500 hours Tested after 2 hour at room temperature
Vibration Test	Inductance within±5% of initial value The appearance shall not break	After vibration for 1hour, in each of three orientations at sweep vibration (10~55~10Hz) with 1.52mm P-P amplitudes

Thermal Shock — One cycle:

Step	Temperature(°C)	Time (min.)
1	-40±5°C	30
2	Room temperature	3
3	125±5°C	30
4	Room temperature	3

The condition of reflow (recommendation):