

## 3. SDB Series (Shielded Type)

### Applications

- Watches, Toys Camera, Electronic Thermometers.
- Portable communication equipment.
- DC/DC converters, etc.
- Power supply for VTRs.
- Other various electronic appliances.



### Features

- Compact, low profile with low Rdc and large current.
- With magnetic shielded against radiation.
- Flat bottom surface allows reliable mounting onto the board.
- Available on tape and reel for auto surface mounting.

### Inductance and Rated Current ranges

Part Series	Inductances range	Rated Current range
* SDB2512	0.24~10 $\mu$ H	4.100~1.000A (Irms) ; 6.800~1.300A (Isat)
* SDB2512S	0.24~33 $\mu$ H	4.100~0.470A (Irms) ; 5.500~0.450A (Isat)

(Dimension data (Refer to Fig. 1))

Part Series	Inductances range	Rated Current range
* SDB3010	1.0~47 $\mu$ H	1.525~0.270A (Irms) ; 1.700~0.240A (Isat)
* SDB3015	1.0~100 $\mu$ H	2.100~0.250A (Irms) ; 2.100~0.230A (Isat)

(Dimension data (Refer to Fig. 2))

Part Series	Inductances range	Rated Current range
* SDB4018R	0.82~220 $\mu$ H	4.000~0.280A (Irms) ; 4.200~0.300A (Isat)
* SDB4025R	1.00~220 $\mu$ H	3.000~0.200A (Irms) ; 3.000~0.200A (Isat)
* SDB5020R	1.00~33 $\mu$ H	3.600~0.900A (Irms) ; 4.000~0.800A (Isat)
* SDB5040R	1.50~47 $\mu$ H	3.600~0.900A (Irms) ; 6.000~1.100A (Isat)
* SDB6028R	0.90~100 $\mu$ H	4.600~0.660A (Irms) ; 6.700~0.650A (Isat)
* SDB6045R	1.00~220 $\mu$ H	6.500~0.500A (Irms) ; 9.400~0.600A (Isat)

(Dimension data (Refer to Fig. 3))

Part Series	Inductances range	Rated Current range
* SDB5D28	1.00~100 $\mu$ H	2.900~0.400A
* SDB1003	0.56~1000 $\mu$ H	6.200~0.230A
* SDB1004	0.56~1000 $\mu$ H	10.000~0.320A

(Dimension data (Refer to Fig. 4))

**3. SDB Series (Shielded Type)**

**Characteristics**

Operating temperature range:

-40 ~+125 : (including self-temperature rise)

SDB2512, SDB2512S, SDB3010, SDB3015,

-25 ~+120 : (including self generated heat)

SDB4018R, SDB4025R, SDB5020R

-40 ~+125 :

SDB5040R, SDB6028R, SDB6045R, SDB5D28, SDB1003, SDB1004

Rated DC current (I<sub>rms</sub>): Base on the temperature rise T=40 Typ.

Rated DC current (I<sub>sat</sub>): Base on the L/L<sub>0A</sub> = 30% Typ. (SDB5D28, SDB1003, SDB1004 (Base on the L/L<sub>0A</sub> = 35% Typ.))

Test equipment:

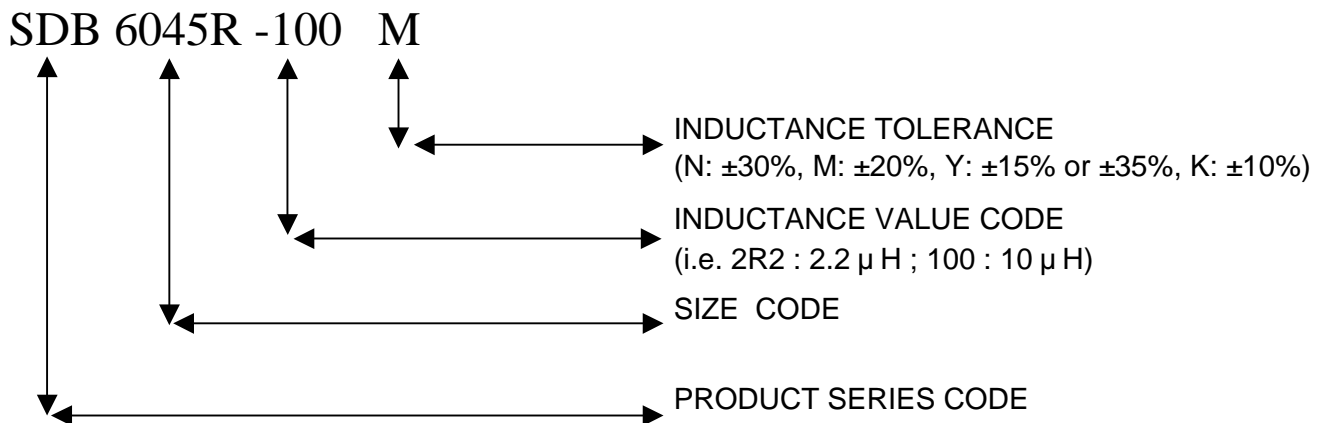
L/Q: HP4285A, HP4286A, HP4284A LCR meter, ZM2355 LCR Meter or equivalent.

DCR: Milli-ohm meter, CH16502, DU5011 milli ohm meter, HP4338B milli ohm meter, HIOKI 3540 or equivalent.

SRF: HP4291B, HP4287A or equivalent.

Electrical specification at 25 .

**Part Numbering System**



3. SDB Series (Shielded Type)

Dimensions (mm)

SDB6045R

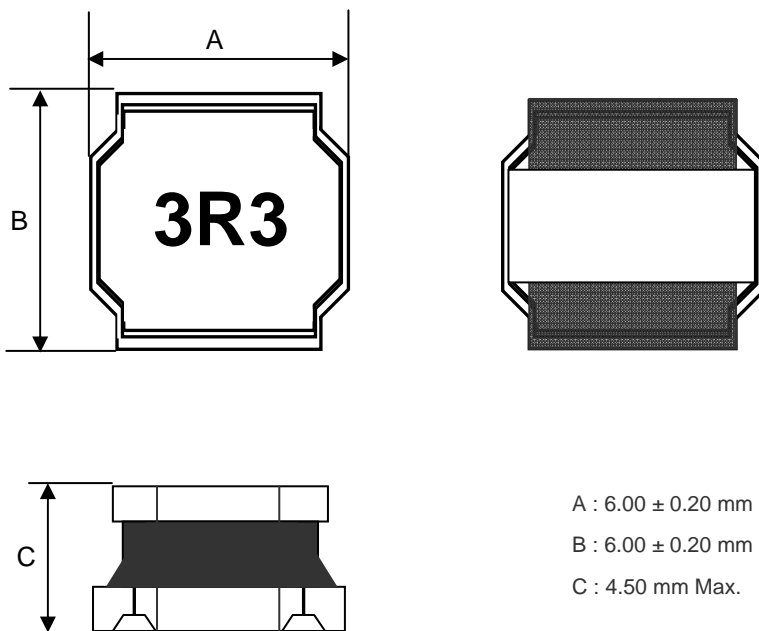


Fig. 3f

## 3. SDB Series (Shielded Type)

### Electrical Characteristics

#### SDB 6045R TYPE

Part No.	Inductance (μH)	Test Freq.	DC Resistance (mΩ)	Rated DC current (A)	
				I <sub>sat</sub>	I <sub>rms</sub>
SDB6045R-1R0N	1.0 ± 30%	100KHz, 1V	10 ± 30%	9.40	6.50
SDB6045R-1R3N	1.3 ± 30%	100KHz, 1V	11 ± 30%	8.80	6.00
SDB6045R-1R8N	1.8 ± 30%	100KHz, 1V	12 ± 30%	7.70	5.30
SDB6045R-2R2N	2.2 ± 30%	100KHz, 1V	13 ± 30%	6.70	5.00
SDB6045R-3R0N	3.0 ± 30%	100KHz, 1V	17 ± 20%	5.50	4.80
SDB6045R-3R3N	3.3 ± 30%	100KHz, 1V	17 ± 20%	4.90	4.50
SDB6045R-4R5N	4.5 ± 30%	100KHz, 1V	23 ± 20%	4.70	3.80
SDB6045R-4R7N	4.7 ± 30%	100KHz, 1V	23 ± 20%	4.40	3.70
SDB6045R-5R6N	5.6 ± 30%	100KHz, 1V	26 ± 20%	4.10	3.60
SDB6045R-6R3N	6.3 ± 30%	100KHz, 1V	26 ± 20%	4.10	3.60
SDB6045R-6R8N	6.8 ± 30%	100KHz, 1V	34 ± 20%	3.90	3.50
SDB6045R-8R2N	8.2 ± 30%	100KHz, 1V	41 ± 20%	3.50	3.10
SDB6045R-100M	10.0 ± 20%	100KHz, 1V	45 ± 20%	3.40	3.00
SDB6045R-150M	15.0 ± 20%	100KHz, 1V	80 ± 20%	2.50	2.30
SDB6045R-220M	22.0 ± 20%	100KHz, 1V	112 ± 20%	2.10	1.90
SDB6045R-330M	33.0 ± 20%	100KHz, 1V	170 ± 20%	1.65	1.50
SDB6045R-470M	47.0 ± 20%	100KHz, 1V	210 ± 20%	1.40	1.30
SDB6045R-560M	56.0 ± 20%	100KHz, 1V	270 ± 20%	1.30	1.20
SDB6045R-680M	68.0 ± 20%	100KHz, 1V	325 ± 20%	1.10	1.00
SDB6045R-101M	100.0 ± 20%	100KHz, 1V	460 ± 20%	1.00	0.90
SDB6045R-221M	220.0 ± 20%	100KHz, 1V	920 ± 20%	0.60	0.50

1. Test Equipment :

L: HP-4285A Precision LCR Meter @100kHz, 1V

DCR: DU-5011 milli ohm meter (or equivalent)

2a). I<sub>sat</sub>: Based on inductance change (ΔL/L<sub>0</sub> : -30%)

2b). I<sub>rms</sub>: Based on temperature rise (ΔT : 40 Typ.)

3. Operating temperature range : -40 ~+125 (Including self generated heat)