

## 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/L0A = 30% Typ. (SDB5D28, SDB1003, SDB1004 (Base on the L/L0A = 35% Typ.))

Test equipment:

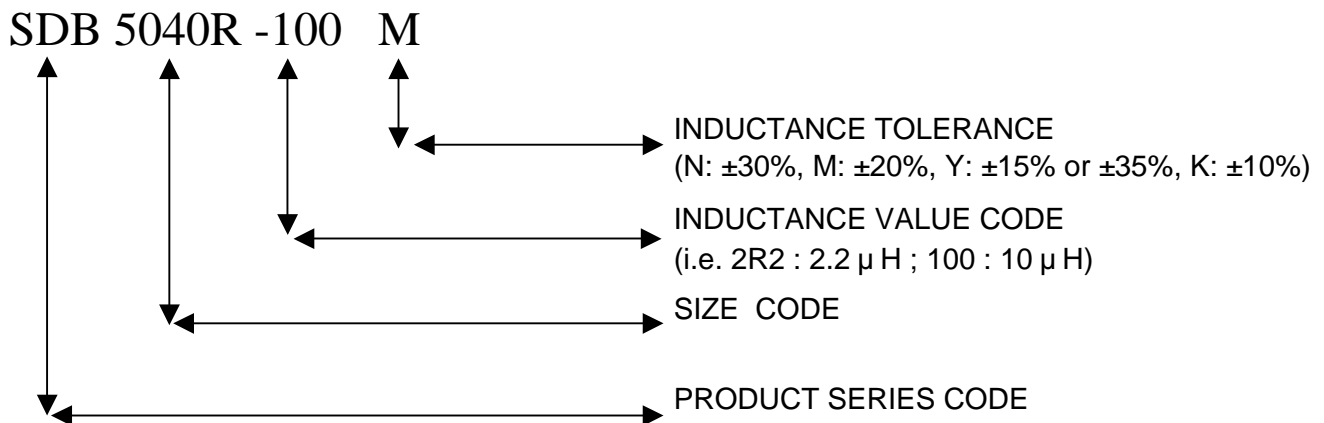
L/Q: HP4285A, HP4286A, HP4284A LCR meter, ZM2355 LCR Meter or equivalent.

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)

SDB5040R

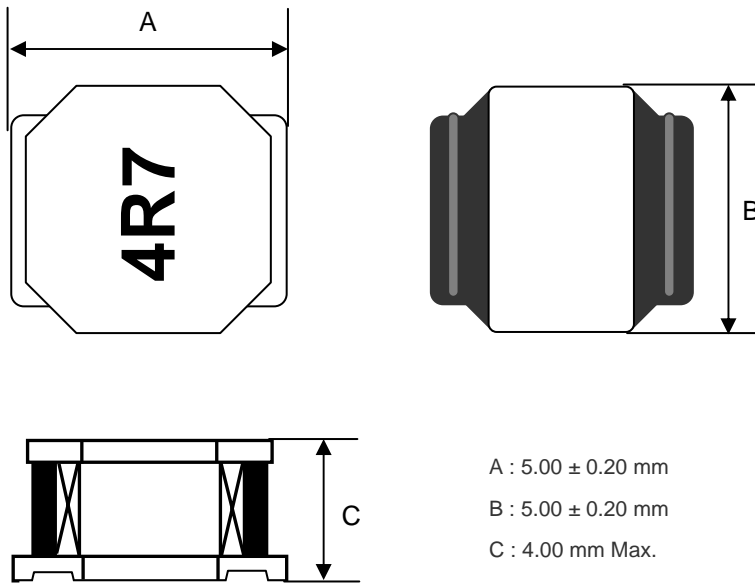


Fig. 3d

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

**Electrical Characteristics**

**SDB 5040R TYPE**

Part No.	Inductance ( $\mu$ H)	Test Freq.	DC Resistance (m $\Omega$ )	Rated DC current (A)	
				I sat	I rms
SDB5040R-1R5N	1.5 $\pm$ 30%	100KHz, 1V	15 $\pm$ 20%	6.00	3.60
SDB5040R-2R2N	2.2 $\pm$ 30%	100KHz, 1V	17 $\pm$ 20%	4.60	3.50
SDB5040R-3R3M	3.3 $\pm$ 20%	100KHz, 1V	22 $\pm$ 20%	3.80	3.30
SDB5040R-4R7M	4.7 $\pm$ 20%	100KHz, 1V	29 $\pm$ 20%	3.30	3.10
SDB5040R-6R8M	6.8 $\pm$ 20%	100KHz, 1V	49 $\pm$ 20%	2.60	2.30
SDB5040R-8R2M	8.2 $\pm$ 20%	100KHz, 1V	54 $\pm$ 20%	2.40	2.20
SDB5040R-100M	10.0 $\pm$ 20%	100KHz, 1V	56 $\pm$ 20%	2.30	2.10
SDB5040R-150M	15.0 $\pm$ 20%	100KHz, 1V	80 $\pm$ 20%	2.00	1.80
SDB5040R-220M	22.0 $\pm$ 20%	100KHz, 1V	126 $\pm$ 20%	1.60	1.40
SDB5040R-270M	27.0 $\pm$ 20%	100KHz, 1V	165 $\pm$ 20%	1.40	1.30
SDB5040R-330M	33.0 $\pm$ 20%	100KHz, 1V	180 $\pm$ 20%	1.30	1.20
SDB5040R-470M	47.0 $\pm$ 20%	100KHz, 1V	270 $\pm$ 20%	1.10	0.90

1. Test Equipment :

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

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

2a). Isat: Based on inductance change ( $\Delta$ L/Lo : -30%)

2b). Irms: Based on temperature rise ( $\Delta$ T : 40 Typ.)

3. Operating temperature range : -25 ~+120 (Including self generated heat)