

### 6. SBS Series (Shielded Type)

#### Applications

Smart Home Systems.  
DC/DC Converter in distributed Power System.  
Other various electronic appliances.

#### Features

Large current adaptable.  
Flat bottom surface allows reliable mounting onto the board.  
High power, high saturation inductors.



#### Inductance and Rated Current ranges

Part Series	Inductances range	Rated Current range
* SBS0703	10.00~1000 $\mu$ H	2.10~0.17A (Irms) ; 1.85~0.18A (Isat)
* SBS0704	1.00~1000 $\mu$ H	5.00~0.20A (Irms) ; 5.60~0.24A (Isat)

(Dimension data (Refer to Fig. 1))

Part Series	Inductances range	Rated Current range
* SBS0420	0.10~3.30 $\mu$ H	12.00~2.50A (Irms) ; 22.00~4.00A (Isat)
* SBS0520	0.10~4.70 $\mu$ H	17.00~2.80A (Irms) ; 45.00~5.00A (Isat)
* SBS0530	0.10~4.70 $\mu$ H	23.00~3.50A (Irms) ; 27.00~8.20A (Isat)
* SBS0620	0.10~4.70 $\mu$ H	18.00~3.00A (Irms) ; 40.00~8.00A (Isat)
* SBS0625	0.10~10.0 $\mu$ H	30.00~2.50A (Irms) ; 50.00~7.00A (Isat)
* SBS0630	0.10~22.0 $\mu$ H	32.50~2.50A (Irms) ; 60.00~4.50A (Isat)
* SBS0650	0.56~10.0 $\mu$ H	20.00~4.50A (Irms) ; 12.00~4.50A (Isat)
* SBS1040	0.19~15.0 $\mu$ H	40.00~5.00A (Irms) ; 90.00~8.00A (Isat)
* SBS1340	0.10~10.0 $\mu$ H	43.00~7.00A (Irms) ; 84.00~14.00A (Isat)
* SBS1350	0.10~10.0 $\mu$ H	55.00~9.00A (Irms) ; 118.00~16.00A (Isat)
* SBS1365	0.10~22.0 $\mu$ H	60.00~10.00A (Irms) ; 120.00~10.00A (Isat)

(Dimension data (Refer to Fig. 2))

Part Series	Inductances range	Rated Current range
* SBS0412R	0.47~4.70 $\mu$ H	6.00~1.80A (Irms) ; 6.80~2.80A (Isat)
* SBS0420R	0.22~10.0 $\mu$ H	9.50~1.60A (Irms) ; 12.50~2.20A (Isat)
* SBS0518R	0.47~10.0 $\mu$ H	10.50~2.50A (Irms) ; 15.50~3.00A (Isat)
* SBS0530R	0.20~10.0 $\mu$ H	14.00~3.20A (Irms) ; 14.50~3.50A (Isat)
* SBS0618R	0.68~22.0 $\mu$ H	9.50~1.80A (Irms) ; 17.00~2.30A (Isat)
* SBS0624R	0.33~10.0 $\mu$ H	18.00~3.10A (Irms) ; 24.50~4.00A (Isat)
* SBS0630R	0.22~33.0 $\mu$ H	24.00~2.00A (Irms) ; 34.00~2.50A (Isat)
* SBS1040R	0.15~33.0 $\mu$ H	45.00~4.40A (Irms) ; 75.00~5.00A (Isat)

(Dimension data (Refer to Fig. 3))

#### Characteristics

Rated DC current (Irms): Base on the temperature rise T=40

Rated DC current (Isat): Base on L/L0A = 25% Typ. (SBS0420, SBS-R series base on L/L0A = 30% Typ.)

Operating temperature range:

-40 ~+125 :

SBS0703, SBS0704, SBS0420, SBS0520, SBS0530, SBS0620, SBS0625, SBS0630, SBS0650, SBS1040, SBS1340, SBS1350, SBS1365

-55 ~+125 :

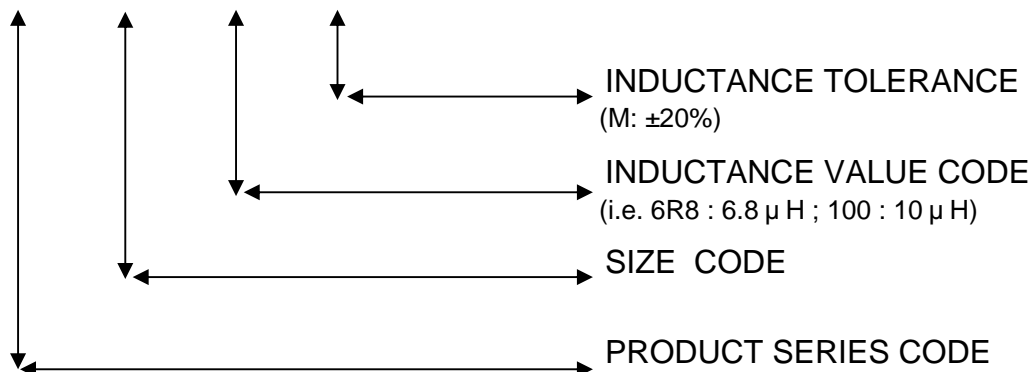
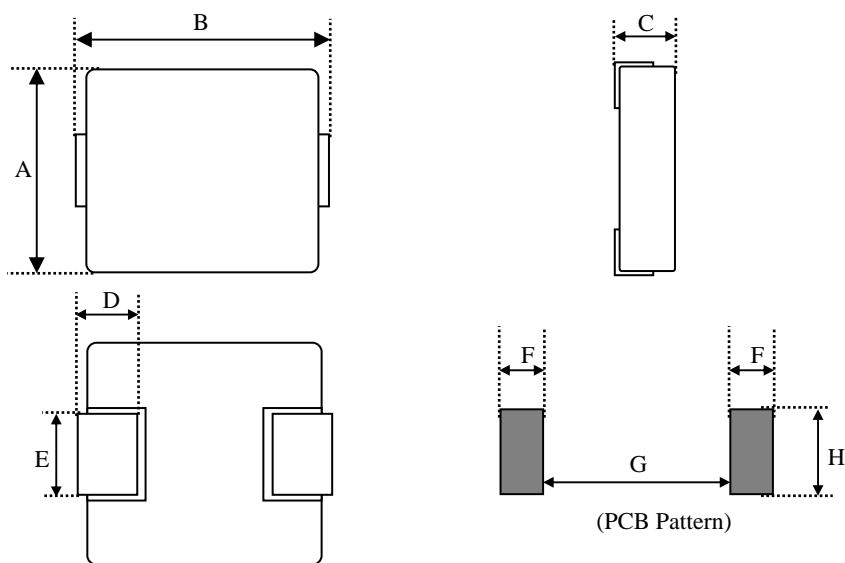
SBS0412R, SBS0420R, SBS0518R, SBS0530R, SBS0618R, SBS0624R, SBS0630R, SBS1040R

Test equipment:

L: HP4284A LCR Meter or equivalent.

DCR: Milli-ohm meter or equivalent.

Electrical specifications at 25 .

**6. SBS Series (Shielded Type)****Part Numbering System****SBS 1040 - 6R8 M****Dimensions (mm)****Fig. 2**

Series	A	B	C (max.)	D	E	F	G	H
SBS0420	$4.10 \pm 0.50$	$4.50 \pm 0.50$	2.10	$0.80 \pm 0.50$	$1.50 \pm 0.50$	1.50	2.50	2.20
SBS0520	$5.00 \pm 0.50$	$5.50 \pm 0.50$	2.00	$1.20 \pm 0.50$	$1.50 \pm 0.50$	2.00	3.00	2.50
SBS0530	$5.00 \pm 0.50$	$5.50 \pm 0.50$	3.00	$1.20 \pm 0.50$	$1.50 \pm 0.50$	2.00	3.00	2.50
SBS0620	6.80 Max	7.60 Max	2.00	$1.60 \pm 0.50$	$2.90 \pm 0.50$	2.50	3.70	3.50
SBS0625	6.80 Max	7.60 Max	2.50	$1.60 \pm 0.50$	$2.90 \pm 0.50$	2.50	3.70	3.50
SBS0630	6.80 Max	7.60 Max	3.00	$1.60 \pm 0.50$	$2.90 \pm 0.50$	2.50	3.70	3.50
SBS0650	6.80 Max	7.60 Max	5.00	$1.60 \pm 0.50$	$2.90 \pm 0.50$	2.50	3.70	3.50
SBS1040	10.40 Max	11.50 Max	4.00	$2.20 \pm 0.50$	$2.90 \pm 0.50$	3.50	6.00	4.00
SBS1340	13.00 Max	14.20 Max	4.00	$2.30 \pm 0.50$	$3.60 \pm 0.50$	2.90	7.90	5.00
SBS1350	13.00 Max	14.20 Max	5.00	$2.30 \pm 0.50$	$3.60 \pm 0.50$	2.90	7.90	5.00
SBS1365	13.00 Max	14.20 Max	6.50	$2.30 \pm 0.50$	$3.60 \pm 0.50$	2.90	7.90	5.00

## 6. SBS Series (Shielded Type)

**Electrical Characteristics****SBS 1040 / 1340 / 1350 / 1365 TYPE**

Inductance value code	L ( $\mu$ H)	Tol.	DC Resistance (m $\Omega$ ) Max.				Rated DC current (A) Typ.							
							I rms				I sat			
			1040	1340	1350	1365	1040	1340	1350	1365	1040	1340	1350	1365
R10	0.10	M	-	0.96	0.60	0.50	-	43.00	55.00	60.00	-	84.00	118.00	120.00
R15	0.15	M	-	1.20	-	0.60	-	41.00	-	55.00	-	75.00	-	118.00
R19	0.19	M	0.95	-	-	-	40.00	-	-	-	90.00	-	-	-
R22	0.22	M	0.95	1.30	0.80	0.70	40.00	38.50	51.00	53.00	90.00	65.00	110.00	112.00
R30	0.30	M	-	-	-	0.80	-	-	-	48.00	-	-	-	72.00
R33	0.33	M	-	1.50	1.10	0.90	-	36.50	42.00	46.00	-	62.00	80.00	65.00
R36	0.36	M	1.40	-	-	-	31.50	-	-	-	60.00	-	-	-
R40	0.40	M	-	-	-	1.00	-	-	-	44.00	-	-	-	64.00
R47	0.47	M	1.60	2.00	1.30	1.20	26.00	32.00	38.00	41.00	38.00	55.00	65.00	63.00
R56	0.56	M	1.80	-	1.50	1.40	27.50	-	36.00	37.00	49.00	-	55.00	62.00
R60	0.60	M	-	2.20	-	-	-	29.00	-	-	-	51.00	-	-
R68	0.68	M	2.40	2.50	1.70	1.60	23.00	28.00	34.00	35.00	42.00	49.00	54.00	60.00
R82	0.82	M	-	3.00	2.30	1.90	-	25.00	31.00	33.00	-	44.00	53.00	50.00
1R0	1.0	M	4.10	3.50	2.50	2.00	17.50	24.00	29.00	32.00	36.00	40.00	50.00	49.00
1R2	1.2	M	-	-	-	2.50	-	-	-	30.00	-	-	-	48.00
1R5	1.5	M	5.80	5.50	4.10	3.00	15.00	19.00	23.00	27.00	27.50	35.00	48.00	45.00
1R8	1.8	M	-	7.00	4.90	3.20	-	16.50	19.00	24.00	-	30.00	40.00	41.00
2R2	2.2	M	9.00	8.00	5.50	4.20	12.00	16.00	20.00	22.00	25.60	29.00	32.00	40.00
3R3	3.3	M	11.80	12.00	9.20	6.80	10.00	12.00	15.00	18.00	18.60	27.00	32.00	35.00
4R7	4.7	M	16.50	15.00	15.00	8.70	9.50	10.00	12.00	13.50	17.00	24.00	27.00	32.00
5R6	5.6	M	19.30	19.00	16.50	10.00	8.50	9.50	11.50	13.50	16.00	19.00	22.00	32.00
6R8	6.8	M	23.30	22.00	18.50	14.00	8.00	9.00	11.00	11.50	13.50	18.00	21.00	16.50
7R8	7.8	M	-	-	20.50	-	-	-	10.00	-	-	-	18.00	-
8R2	8.2	M	-	28.00	22.50	15.50	-	8.50	9.50	10.50	-	16.00	18.00	16.00
100	10	M	36.50	34.00	25.50	17.20	6.80	7.00	9.00	10.00	12.00	14.00	16.00	15.50
150	15	M	60.00	-	-	-	5.00	-	-	-	8.00	-	-	-
220	22	M	-	-	-	40.00	-	-	-	10.00	-	-	-	10.00

**Notes:**

1. Test Frequency : 100KHz / 0.25V
2. Test equipment :  
L/Q : HP-4284A LCR meter  
DC Resistance : Milli-ohm meter
- 3a). Irms: base on temp. rise 40  $^{\circ}$ C Typ.
- 3b). Isat: base on L/L0A = 30% Typ.
4. Operating temperature range : -40  $^{\circ}$ C ~ +125  $^{\circ}$ C