

**3. SSDB4018S Series (Shielded Type)**

**Applications**

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



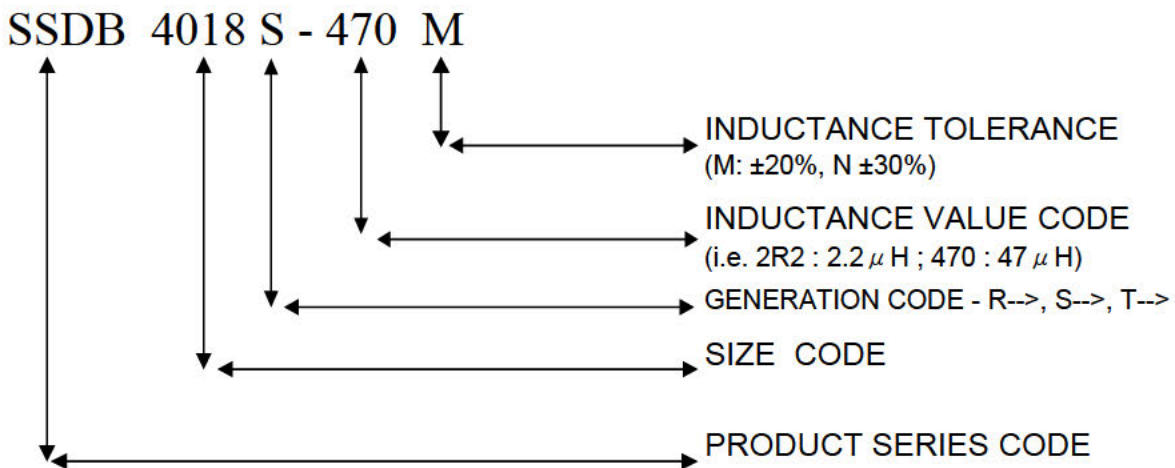
**Features**

- 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**

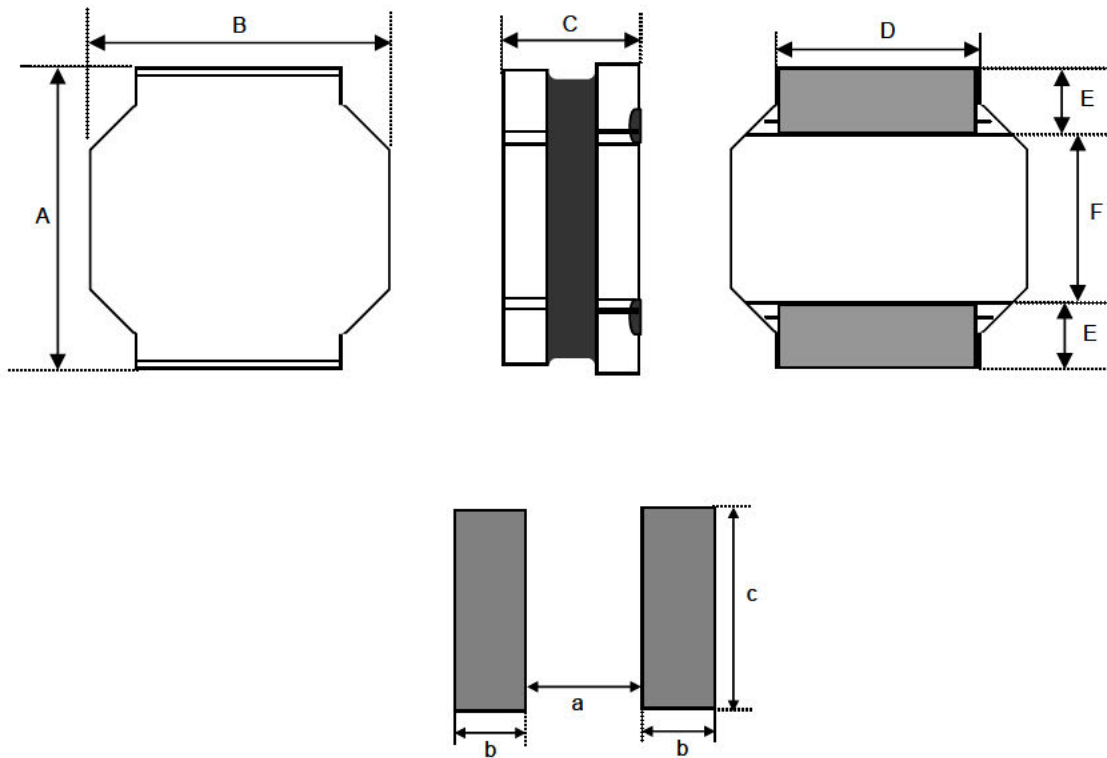
Part Series	Inductances range	Rated Current range
* SSDB4018S	1.0~220 $\mu$ H	2.000~0.170A (Irms) ; 4.800~0.270A (Isat)

**Part Numbering System**



3. SSDB4018S Series (Shielded Type)

Dimensions (mm)



Series	A	B	C	D	E	F	a	b	c
SSDB4018S	4.0±0.2	4.0±0.2	1.8Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9Typ.	1.1Typ.	3.4Typ.

**Construction & Material:**

1. Ferrite Core: Ni-Zn Ferrite
2. Wire: Polyurethane system enameled copper wire
3. Magnetic Glue: Epoxy resin and magnetic powder
4. Plating Electrodes: Plating: Ag/Ni/Sn
5. Outer Electrodes: Top surface solder coating: Sn/Ag/Cu
6. Product comply with RoHS' requirement

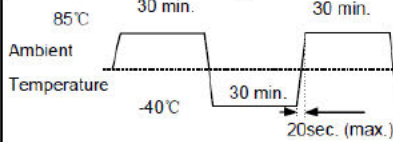
3. SSDB4018S Series (Shielded Type)

PART NUMBER	INDUCTANCE (μH)	RDC (Ω)		Isat (A)	Irms (A)	TOLERANCE
		Typ.	Max	Typ.	Typ.	
1R0	1.0	0.025	0.0325	4.80	2.00	N: 30% M: 20%
1R5	1.5	0.030	0.0390	3.35	1.80	
2R2	2.2	0.045	0.0585	2.70	1.65	
3R3	3.3	0.070	0.0910	2.45	1.23	
4R7	4.7	0.090	0.1170	1.70	1.20	
6R8	6.8	0.110	0.1430	1.45	1.06	
100	10	0.180	0.2340	1.30	0.84	
150	15	0.250	0.3250	0.94	0.65	
220	22	0.360	0.4680	0.80	0.59	
330	33	0.530	0.6890	0.56	0.49	
470	47	0.650	0.8450	0.57	0.42	
680	68	1.000	1.3000	0.47	0.32	
101	100	1.750	2.2750	0.40	0.25	
151	150	2.500	3.2500	0.31	0.22	
221	220	4.000	5.2000	0.27	0.17	

1. Test Frequency: 100KHz,1V
2. Test quipment:
  - L: ZM2355 LCR meter or equivalent.
  - RDC: HIOKI 3540 or equivalent.
3. Isat: Based on Inductance decrease 30%
4. Irms: Based on Temperature increase 40°C
5. Operating temperature range: -25°C to +120°C (Including Self-heating)
6. Storage Temp.: -10°C~+40°C

3. SSDB4018S Series (Shielded Type)

1. Reliability test:

No	Test item	Specification	Test condition
1-1	Solderability	90% or more of electrode area shall be coated by new solder.	<ol style="list-style-type: none"> <li>1. The test samples shall be dipped in flux, and then immersed in molten solder.</li> <li>2. Solder temperature: 245±5°C</li> <li>3. Duration: 5±1 sec.</li> <li>4. Solder: Sn/3.0Ag/0.5Cu</li> <li>5. Flux: 25% resin and 75% ethanol in weight</li> <li>6. Immersion depth: all sides of mounting terminal shall be immersed</li> </ol>
1-2	Resistance to High Temperature	<ol style="list-style-type: none"> <li>1. No mechanical damage.</li> <li>2. Inductance change: Within ± 10%</li> </ol>	<ol style="list-style-type: none"> <li>1. Temperature: 85±2°C</li> <li>2. Duration: 1000<sup>±24</sup> hours</li> <li>3. The chip shall be stabilized at normal condition for 1~2 hours before measuring.</li> </ol>
1-3	Resistance to Low Temperature	<ol style="list-style-type: none"> <li>1. No visible mechanical damage</li> <li>2. Inductance change: Within ± 10%</li> </ol>	<ol style="list-style-type: none"> <li>1. Temperature: -40±3°C</li> <li>2. Duration: 1000<sup>±24</sup> hours</li> <li>3. The chip shall be stabilized at normal condition for 1~2 hours before measuring</li> </ol>
1-4	Damp heat	<ol style="list-style-type: none"> <li>1. No mechanical damage.</li> <li>2. Inductance change: Within ± 10%</li> </ol>	<ol style="list-style-type: none"> <li>1. Temperature: 60±2°C</li> <li>2. Humidity: 90% to 95%RH</li> <li>3. Duration: 1000<sup>±24</sup> hours</li> <li>4. The chip shall be stabilized at normal condition for 1~2 hours before measuring</li> </ol>
1-5	Thermal Shock	<ol style="list-style-type: none"> <li>1. No visible mechanical damage.</li> <li>2. Inductance change: Within ±</li> </ol>  <p>The diagram shows a square wave temperature profile. The temperature rises from ambient to 85°C, stays there for 30 minutes, then drops to -40°C, stays there for 30 minutes, and then rises back to ambient. The transition times between 85°C and -40°C, and between -40°C and ambient, are marked as 20sec. (max.).</p>	<ol style="list-style-type: none"> <li>1. Temperature and time: -40±3°C for 30±3 min--&gt;85°C for 30±3min</li> <li>2. Transforming interval: Max. 20 sec</li> <li>3. Tested cycle: 100 cycles</li> <li>4. The chip shall be stabilized at normal condition for 1~2 hours before measuring</li> </ol>
1-6	Loading at High Temperature	<ol style="list-style-type: none"> <li>1. No mechanical damage.</li> <li>2. Inductance change: Within ± 10%</li> </ol>	<ol style="list-style-type: none"> <li>1. Temperature: 85±2°C</li> <li>2. Applied current: Rated current</li> <li>3. Duration: 1000<sup>±24</sup> hours</li> <li>4. The chip shall be stabilized at normal condition for 1~2 hours before measuring</li> </ol>

**3. SSDB4018S Series (Shielded Type)**

**1. Reliability test:**

No	Test item	Specification	Test condition
1-7	Vibration	1. No visible mechanical damage. 2. Inductance change: Within $\pm 10\%$	1. Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder. 2. The chip shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz. 3. The frequency range from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).
1-8	Resistance to Soldering Heat	1. No visible mechanical damage. 2. Inductance change: Within $\pm 10\%$	1. Re-flowing Profile: Please refer to chart below 2. Test board thickness: 1.0mm 3. Test board material: glass epoxy resin 4. The chip shall be stabilized at normal condition for 1~2hours before measuring