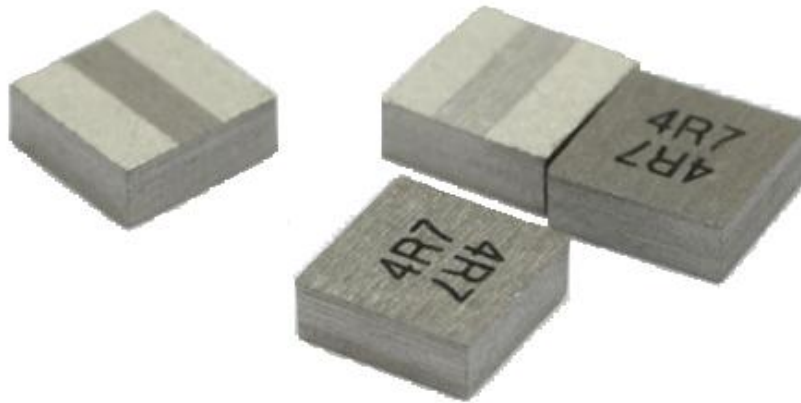


SPECIFICATION SHEET

SSMC – 3030 – S(Single) series

- 303020-SA series
- 303020-SC series



All specifications are subject to our final confirmation;
the data can be changed without any notice.
(Please confirm your acceptance or not within 2 weeks;
If we receive no confirmation from you,
then we regard it as you accept our specifications).



Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

STANDARD

■ FEATURE

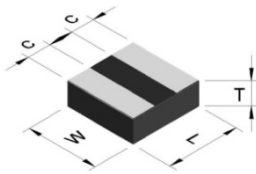
- Magnetic metal powder power inductor.
- 3.0 X 3.0mm square and 2.0mm (Max.) height compact original design.
- Large current, Low DC Resistance, High efficiency.
- Low acoustic noise and low leakage flux noise by shielded construction.
- Apply to DC/DC converter of notebook computer.
- Halogen Free, 100% Lead(Pb) Free, REACH(SVHC) and RoHS compliant.

■ ORDERING CODE

SSMC - □□□□□□ - □□□ - □ □
 (1) (2) (3) (4) (5)

(1) SST Type Code

(2) Dimensions



303020 series

mm [inches]

Type	L	W	T (max.)	C
SSMC-303020-□□□-□	3.0 ± 0.2	3.0 ± 0.2	2.0	1.0 ± 0.2
	[0.118±0.008]	[0.118±0.008]	[0.079]	[0.039±0.008]

(3) Inductance

The unit in μH represented with 3 digits.

- ① First two digits: Indicate the rated inductance
- ② Last digits : For the number of zeros following the first two digits
- ③ Letter "R" represents the decimal point

Ex.) R33 : 0.33 μH
 1R0 : 1.0 μH
 100 : 10.0 μH

(4) Type

S : Single Type
 A : 2 Array Type

(5) Material Code



Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

STANDARD

■ SPECIFICATION

● SSMC-303020-SA series.

Measuring Equipments : (Agilent) LCR meter 4285A + (ADEX) AX-162D.

Parts No.	Inductance *1		DCR (mΩ) *2		DC superimposition current (A) *3	Temperature Rise current (A) *4
	μH	Tolerance	typ.	max.		
SSMC-303020-1R5-SA	1.5	± 20%	41	49	6.2	3.4
SSMC-303020-2R2-SA	2.2		79	95	5.9	2.2
SSMC-303020-3R3-SA	3.3		118	141	5.1	1.8
SSMC-303020-4R7-SA	4.7		141	163	4.1	1.8
SSMC-303020-100-SA	10		378	435	2.7	1.1

● SSMC-303020-SC series.

Measuring Equipments : (Agilent) LCR meter 4285A + (ADEX) AX-162D.

Parts No.	Inductance *1		DCR (mΩ) *2		DC superimposition current (A) *3	Temperature Rise current (A) *4
	μH	Tolerance	typ.	max.		
SSMC-303020-R33-SC	0.33		14	17	7.0	5.5
SSMC-303020-R47-SC	0.47	± 30%	18	22	6.2	4.8
SSMC-303020-R68-SC	0.68		22	27	5.6	4.5
SSMC-303020-1R0-SC	1.0		26	32	4.2	4.0
SSMC-303020-1R2-SC	1.2		30	36	4.0	3.9
SSMC-303020-1R5-SC	1.5	± 20%	33	39	3.9	3.7
SSMC-303020-2R2-SC	2.2		67	80	3.6	2.4
SSMC-303020-3R3-SC	3.3		99	114	3.4	2.2
*6 SSMC-303020-3R3-SC-1	3.3		84	100	2.5	2.4
SSMC-303020-4R7-SC	4.7		137	158	3.2	1.9
SSMC-303020-6R8-SC	6.8		168	193	2.5	1.6
SSMC-303020-100-SC	10		280	322	1.9	1.2
SSMC-303020-150-SC	15		675	776	1.5	0.7
SSMC-303020-220-SC	22		870	1,000	1.3	0.6
SSMC-303020-330-SC	33		1,187	1,365	0.9	0.5
SSMC-303020-470-SC	47		1,435	1,650	0.9	0.5

*1 Inductance is measured at 100 KHz, 1V.

*2 DC Resistance is measured at ambient temperature (Ta=25°C).

*3 DC Current based upon **20% inductance reduction** from the initial value (typ.) (Ta=25°C).

*4 DC Current based upon 40°C temperature rise.

*5 Operating temperature is -40°C ~ 125°C (includes coil heating).

*6 Low Rdc Type.



Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

STANDARD

RELIABILITY AND TEST CONDITION

	Item	Requirements	Test Conditions
Ratings	Operating temp. range	-40 ~ +125°C	* Including self temperature.
	Storage temp. range	+5 ~ +40°C. , 70% RH max.	* at packing condition.
Endurance characteristics	Solderability (Reflow)	1. Appearance shall be without distinct damage. 2. Inductance & DC Resistance shall be Within± 15% of the initial value.	* Soldering conditions refer to page 7 profile. * 5 times of recommended reflow temperature profile.
	Resistance to solder heat	1. More than 95% of the terminal electrode shall be covered with new solder.	* Preheat Temperature : 160 ± 10 °C * Preheat Time : 90 sec. * Solder Temperature : 245 ± 5 °C * Dipping Time : 3 ± 0.5 Sec.
Mechanical characteristics	Shear strength	1. No peeling off PCB. 2. No abnormality in electrical characteristics	* The samples shall be gradually Pressurized by pressure fixture (tip dimension : 0.5) and held in static load of 10N (App. 1.0 kgf) for 10±1 sec.
	Bending strength	1. No apparent mechanical damage affecting Electrical characteristics..	* Product is mounted on PCB. * Thereafter R340 pressure fixture is used to apply pressure backside of the board at a rate of approx. * 1mm/ sec. until bending width becomes 3mm and keep it for 5 sec.
Environmental Test	Vibration	1. Appearance shall be without distinct damage. 2. Inductance & DC Resistance shall be Within± 15% of the initial value.	* Frequency : 10-55-10Hz * Amplitude : 1.52mm * Direction and time : X,Y and Z directions for 2 hours.
	Heat resistance (at High Temp.)		* Temperature : +120 ±3°C * Time : 1,000 hours * Measured at room ambient temperature after placing for 24 hours



Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

STANDARD

RELIABILITY AND TEST CONDITION

	ITEM	REQUIREMENTS	TEST CONDITIONS
Environmental Test	Heat resistance (at Low Temp.)	1. Appearance shall be without distinct damage. 2. Inductance & DC Resistance shall be Within $\pm 15\%$ of the initial value.	* Temperature : -40 ± 3 °C * Time : 1,000 hours * Measured at room ambient temperature after placing for 24 hours
	Humidity resistance (8585 Teat)		* Temperature : 85 ± 3 °C * Humidity : 85 ± 5 % RH * Time : 1,000 hours * Measured at room ambient temperature after placing for 24 hours

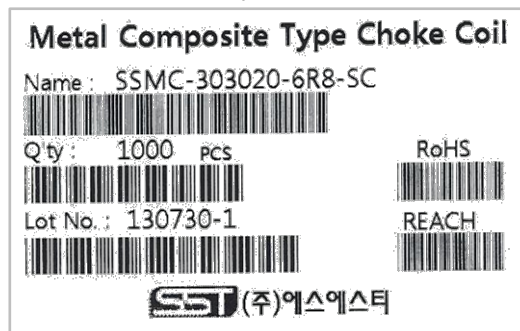
※ Measurement should be conducted at Temperature 20 ± 15 °C. (Environmental Test)

PACKING

(1) Label (reel / inner & carton box)

(Sample)

- 1) Model name (Item)
- 2) Part Name.(Part No.)
- 3) Quantity.
- 4) Lot No.
- 5) RoHS & REACH Marks.
- 6) Manufacturer.



(2) Standard quantity for packing.

Pcs

Packing Type (EIA)	Tape & reel			Bulk
	Reel	Inner box	Carton box	Vinyl or Cassette
SSMC- 3030 Series	1,000	6,000	24,000	As wanted

* Packing method can be changed, based on user's request.

* ESD Packing available for class "D" (Electrostatic Dissipative, for $\geq 10^6$ ohm and $\leq 10^{11}$ ohm) upon request.



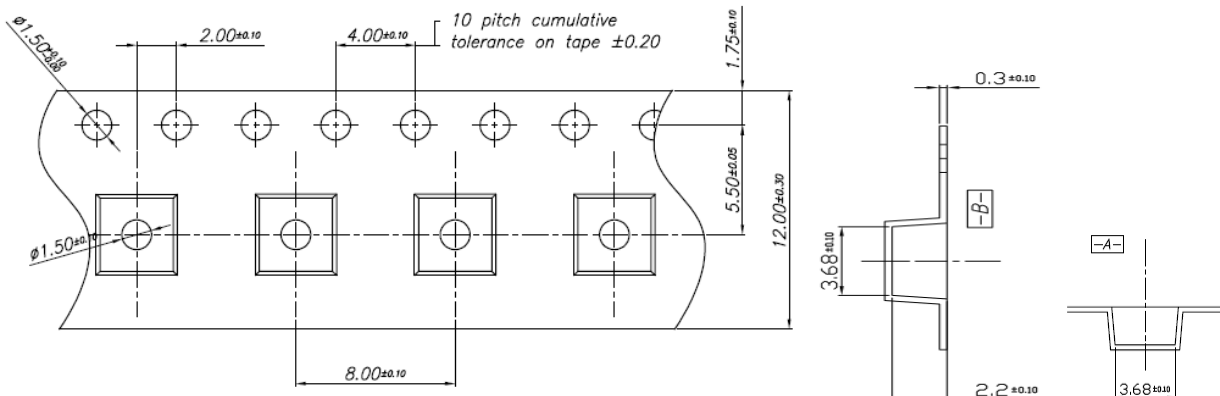
Metal Composite Type Choke Coil

TYPE / SERIES

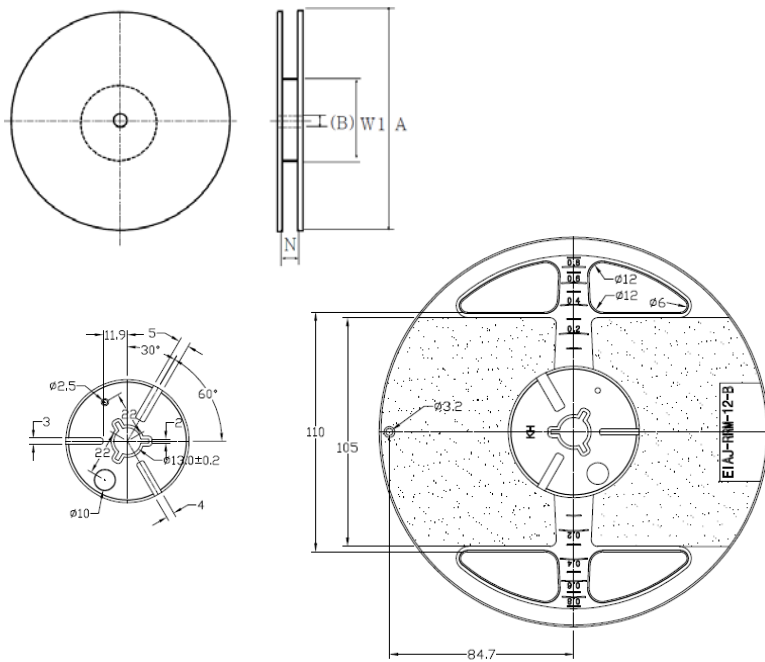
SSMC – 303020 – S series

STANDARD

■ TAPE DIMENSION / Embossing, 12mm $d = 2.2 \pm 0.1$, BLACK (unit : mm)



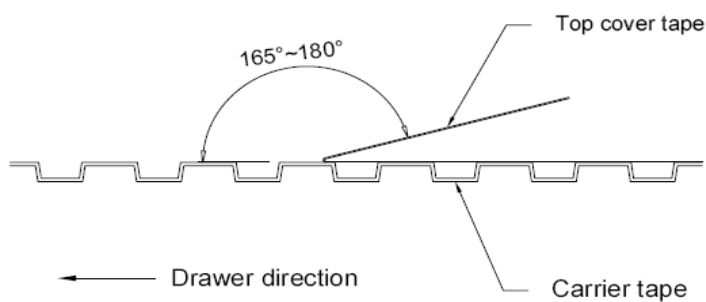
■ REEL DIMENSION (7" x 12mm, Black)



unit : mm

Type	W (mm)
A	180 +0.0/-3.0
W1	60 +1.0/-0.0
N	13.0 \pm 0.5
B	13.0 \pm 0.2

■ TOP COVER TAPE STRENGTH



The force for tearing off top cover tape is 20 to 70 grams in the arrow direction



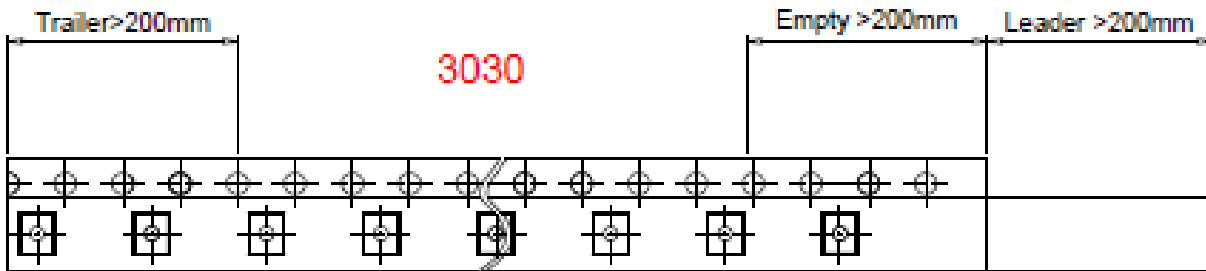
Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

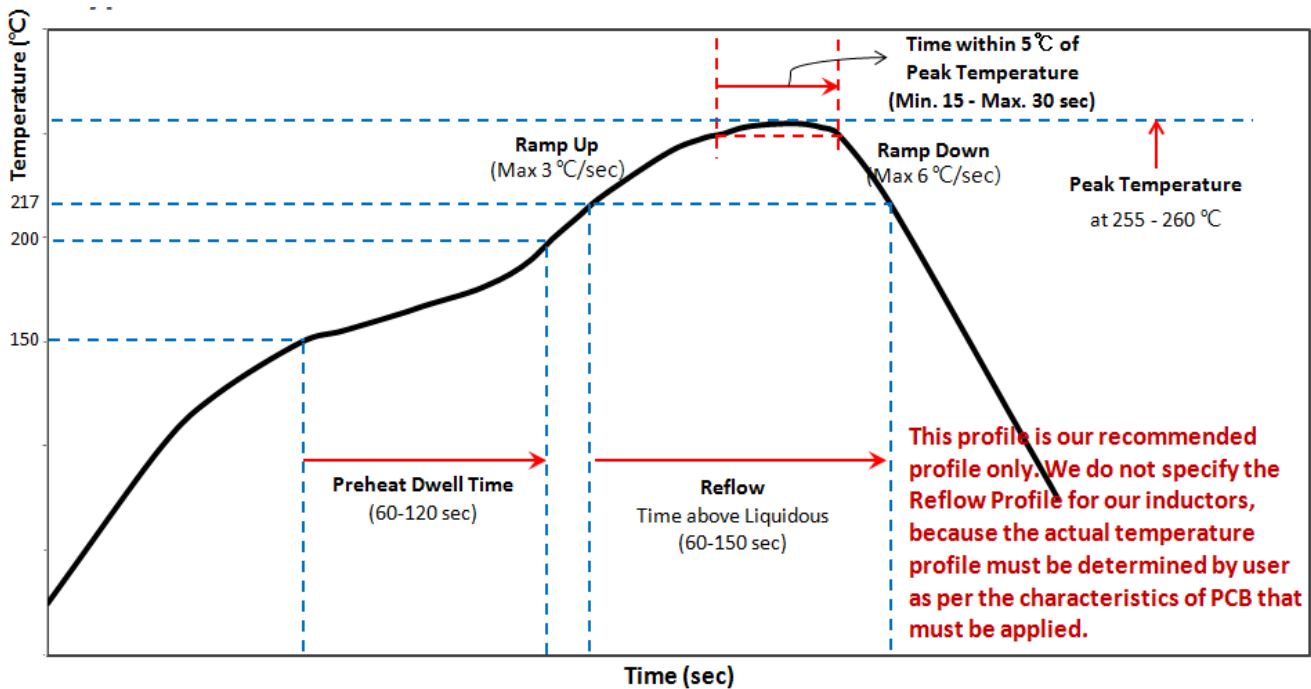
STANDARD

LEADER AND BLANK PORTION



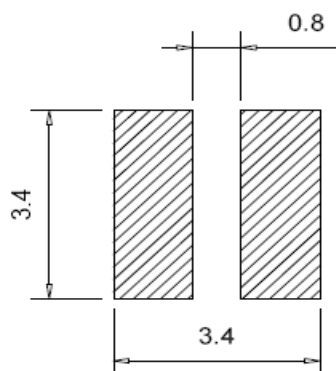
RECOMMENDED REFLOW SOLDERING CONDITION.

The following profile is just our recommended profile only. We do NOT specify the Reflow Profile for our inductors, because the actual temperature profile must be determined by user as per the characteristics of PCB that must be applied.



RECOMMENDED LAND PATTERN DESIGN. (unit : mm)

(SSMC- 3030 Series)





Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

STANDARD

■ RoHS / HF / REACH (SVHC) CONDITIONS.

N.D. : Not detected

Parts No.	Pb	Cd	Hg	Cr+6	PBBs	PBDEs	F	Cl	Br	I	Sb	SVHC (168+kinds)
SSMC-3030□□ – S□ series	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.



Metal Composite Type Choke Coil

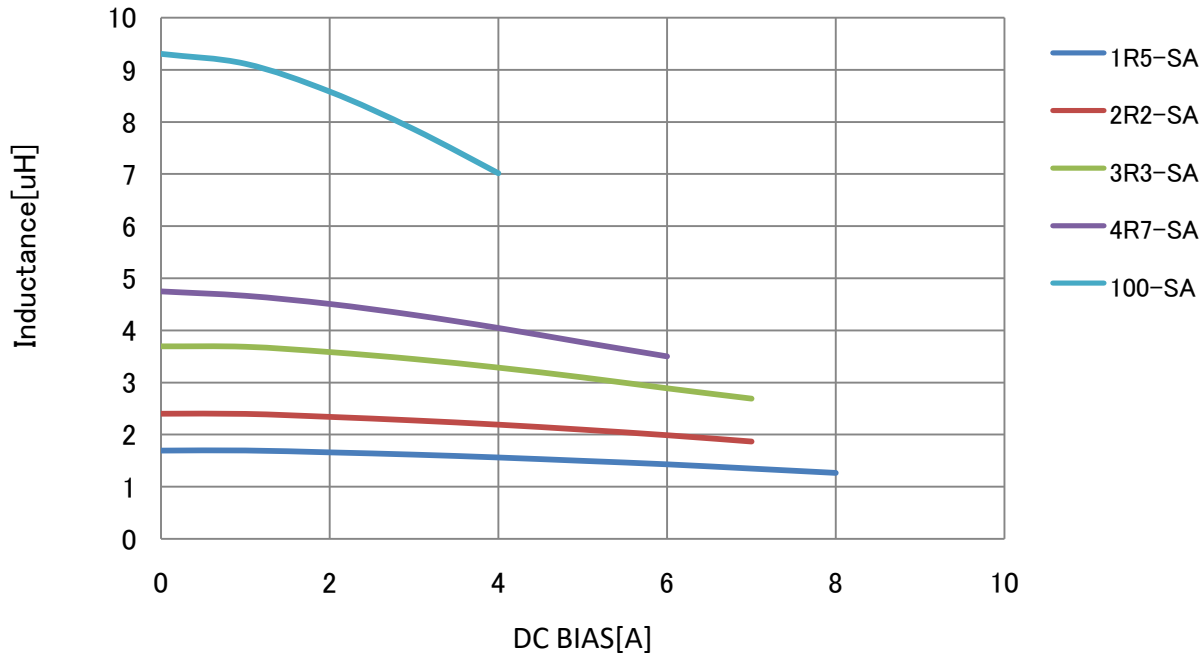
TYPE / SERIES

SSMC – 303020 – S series

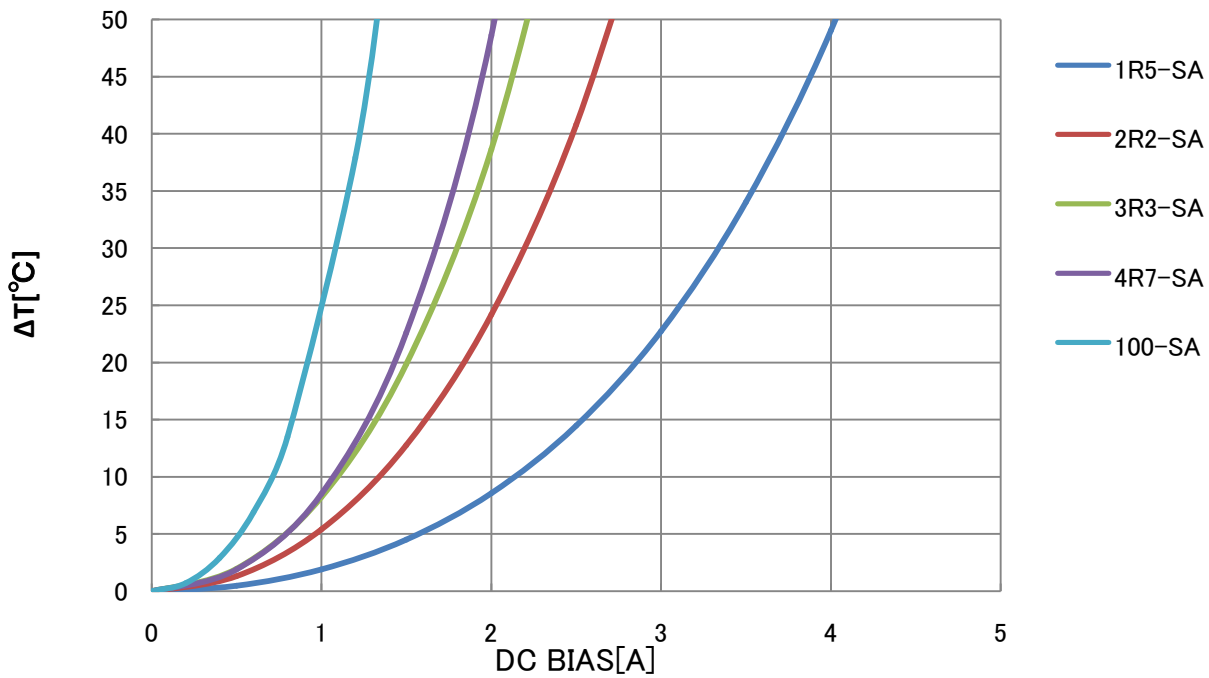
STANDARD

CHARACTERISTIC GRAPHS (303020-SA series)

● Superimposition current



● Temperature Rise current





Metal Composite Type Choke Coil

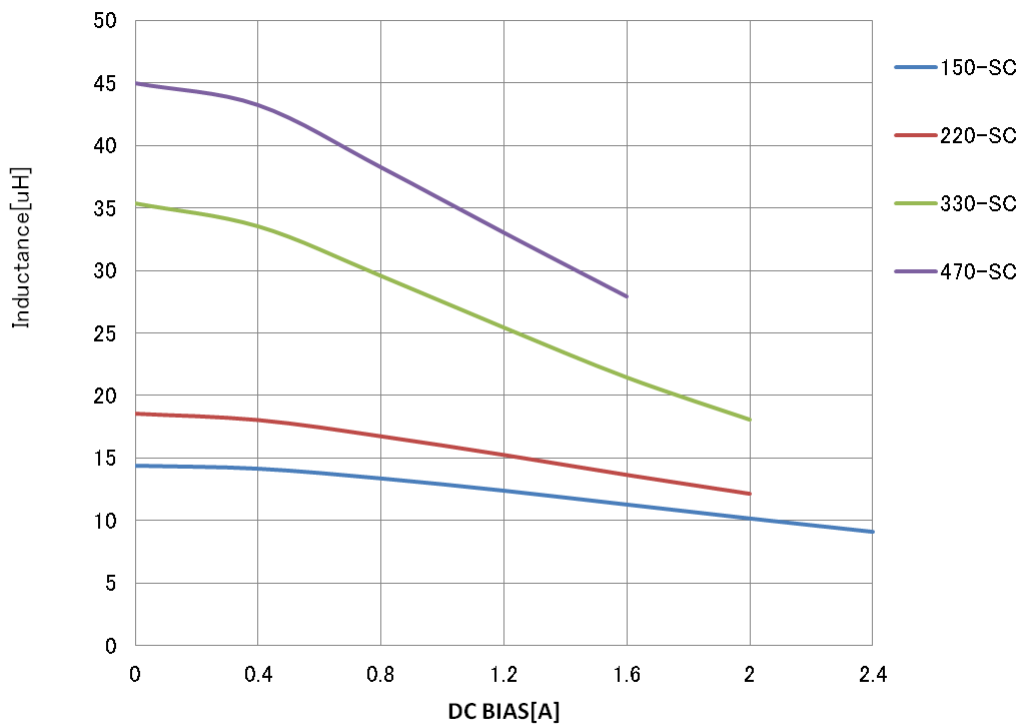
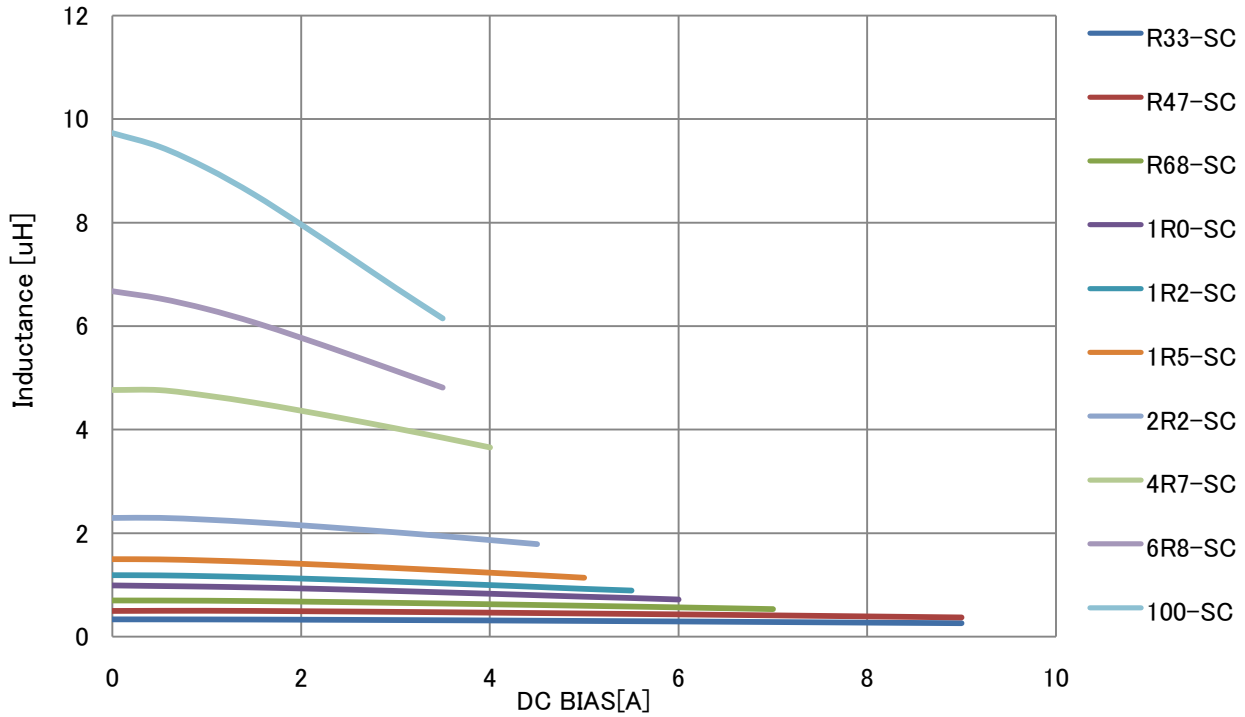
TYPE / SERIES

SSMC – 303020 – S series

STANDARD

CHARACTERISTIC GRAPHS (303020-SC series)

● Superimposition current





Metal Composite Type Choke Coil

TYPE / SERIES

SSMC – 303020 – S series

STANDARD

● Temperature Rise current

