Power Choke

JSHC0650 Series

JinLai's proven design and process support high reliability, high thermal characteristics, and high efficiency power chokes for application.

DATA SHEET

Place of origin: Chongqing

变 更 履 历
Revision History

版 本 号 Revision	变 更 日 期 Changed Date	申 请 者 Request By	变 更 内 容 Change Content
A0	2021-8-16	田宁丽	承认发行

目 录

1.Features

Products are lead-free, in line with RoHS directive, Halogen Free and REACH Compliance

High performance (Isat) realized by metal dust core

Lowest DCR impedance of the same size

Capable of corresponding high frequency

The integrated structure avoids noise

2.Application

DC/DC converter

Smart phone/PAD,HDD/SSD,DVC/DSC

Mobile display panels, portable game devices, compact power supply modules,other.

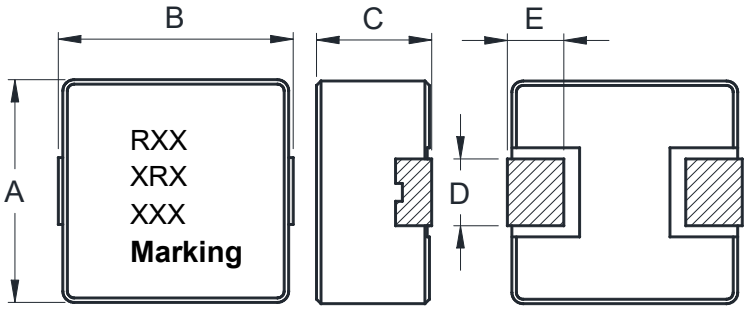
3.Part No. definition

JSHC	0650	H	-	XXX	M	-	K
①	②	③		④	⑤		⑥

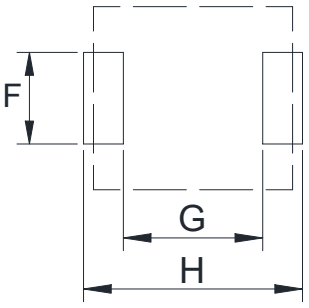
①	产品代码 Product Code	：	JSHC Series	⑤	公差范围 Tolerance	：	M = ±20%
②	产品尺寸 Dimension	：	7.0×7.7×2.0mm	⑥	粉料 Powder lot	：	Alloy powders
③	生产模具 Production molds	：	Regular size				
④	电 感 值 Inductance	：	如 6R8=6.8μH				

※ 工作温度范围：-55℃ ~ +165℃ (包含产品发热)
Operating temperature range : -55℃ ～ +165℃ (Including self-temperature rise)

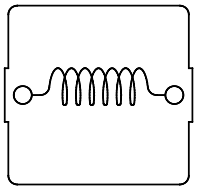
4.Appearance and dimensions



Reference PCB pattern



Schematic



Dimensions in mm

A	B	C	D	E	F	G	H
7.0Max	7.7Max	5.0Max	3.0±0.3	1.5±0.5	3.5Ref	3.7Ref	8.4Ref

5.Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	RDC(mΩ)	Isat(A)	Irms(A)
	(uH)	(±%)	(KHz)	Max(Typical)	Typical(Max)	Typical(Max)
JSHC0650H-R33M-K	0.33	20	100	3(2.7)	45.0(40.5)	25.0(22.5)
JSHC0650H-R47M-K	0.47	20	100	4.5(4.05)	24.0(21.6)	18.0(16.2)
JSHC0650H-R68M-K	0.68	20	100	6.5(5.85)	18.0(16.2)	14.0(12.6)
JSHC0650H-1R0M-K	1.0	20	100	7.5(6.75)	17.0(15.3)	13.0(11.7)
JSHC0650H-1R5M-K	1.5	20	100	11(9.9)	13.0(11.7)	11.0(9.9)
JSHC0650H-2R2M-K	2.2	20	100	15(13.5)	12.0(10.8)	8.0(7.2)
JSHC0650H-3R3M-K	3.3	20	100	20(18)	9.0(8.1)	7.0(6.3)
JSHC0650H-4R7M-K	4.7	20	100	35(31)	9.0(8.1)	6.0(5.4)
JSHC0650H-5R6M-K	5.6	20	100	45(40.5)	9.0(8.1)	6.0(5.4)
JSHC0650H-6R8M-K	6.8	20	100	40(36)	8.0(7.2)	5.0(4.5)
JSHC0650H-8R2M-K	8.2	20	100	45(40.5)	6.0(5.4)	5.0(4.5)
JSHC0650H-100M-K	10	20	100	60(54)	5.5(4.95)	4.5(4.05)
JSHC0650H-150M-K	15	20	100	85(76.5)	5.0(4.5)	3.5(3.15)
JSHC0650H-220M-K	22	20	100	130(117)	3.5(3.15)	2.5(2.25)
JSHC0650H-330M-K	33	20	100	160(144)	2.5(2.25)	2.0(1.8)
JSHC0650H-470M-K	47	20	100	230(207)	2.5(2.25)	2.3(2.07)
JSHC0650H-680M-K	68	20	100	400(360)	2.0(1.8)	1.5(1.35)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- All data is tested on 25℃ ambient temperature.
- Inductance is tested at 100kHz, 1.0V.
- Heat rating current: The value of DC current when product temperature rise is ΔT40℃ (Ta=25℃).
- Saturation current: The value of DC current when the inductance decreases approximately 30% of its.

Special remind: Circuit design, component placement, frequency, cooling system and etc.
all will affect the product temperature. Please verify the actual product temperature in the final application.

Part Number	Inductance	Tolerance	Test Frequency	RDC(mΩ)	Isat(A)	Irms(A)
	(uH)	(±%)	(KHz)	Max(Typical)	Typical(Max)	Typical(Max)
JSHC0650H-R22M-GT	0.22	20	100	3.5(3.15)	45.0(40.5)	20.0(18)
JSHC0650H-1R0M-GT	1.0	20	100	7.5(6.75)	19.0(17.1)	14.0(12.6)
JSHC0650H-1R5M-GT	1.5	20	100	8(7.2)	12.0(10.8)	11.0(9.9)
JSHC0650H-2R2M-GT	2.2	20	100	13(11.7)	15.0(13.5)	11.0(9.9)
JSHC0650H-3R3M-GT	3.3	20	100	20.9(18.81)	9.0(8.1)	7.0(6.3)
JSHC0650H-4R7M-GT	4.7	20	100	25(22.5)	7.0(6.3)	6.0(5.4)
JSHC0650H-150M-GT	15	20	100	85(76.5)	5.0(4.5)	3.0(2.7)

Note: When ordering, please specify tolerance code. Tolerance: M=±20%

- All data is tested on 25℃ ambient temperature.
- Inductance is tested at 100kHz, 1.0V.
- Heat rating current: The value of DC current when product temperature rise is ΔT40℃ (Ta=25℃).
- Saturation current: The value of DC current when the inductance decreases approximately 30% of its.

Special remind: Circuit design, component placement, frequency, cooling system and etc.
all will affect the product temperature. Please verify the actual product temperature in the final application.

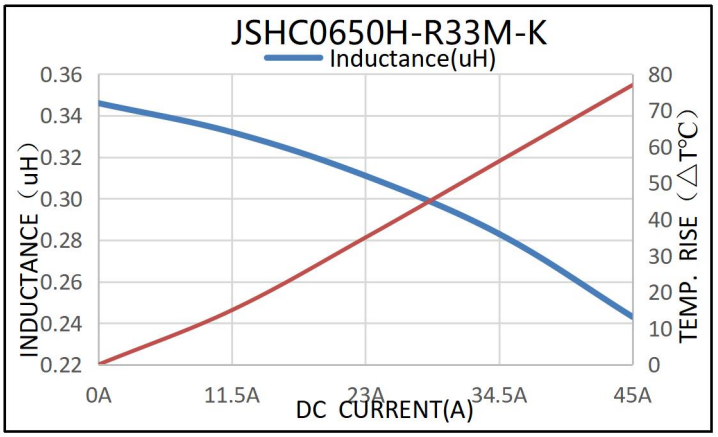
Part Number	Inductance	Tolerance	Test Frequency	RDC(mΩ)	Isat(A)	Irms(A)
	(uH)	(±%)	(KHz)	Max(Typical)	Typical(Max)	Typical(Max)
JSHC0650H-6R8M-GH	6.8	20	100	60(54)	6.0(5.4)	5.0(4.5)
JSHC0650H-100M-GH	10	20	100	75(67.5)	5.3(4.77)	4.5(4.05)
JSHC0650H-150M-GH	15	20	100	85(76.5)	5.0(4.5)	3.0(2.7)
JSHC0650H-220M-GH	22	20	100	85(76.5)	4.0(3.6)	3.0(2.7)
JSHC0650H-330M-GH	33	20	100	155(139.5)	4.0(3.6)	2.0(1.8)
JSHC0650H-470M-GH	47	20	100	220(198)	2.0(1.8)	1.5(1.35)
JSHC0650H-680M-GH	68	20	100	280(252)	1.8(1.62)	1.3(1.17)

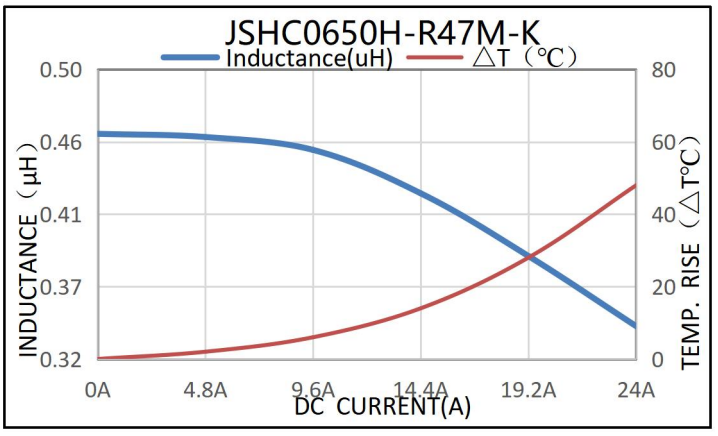
Note: When ordering, please specify tolerance code. Tolerance: M=±20%

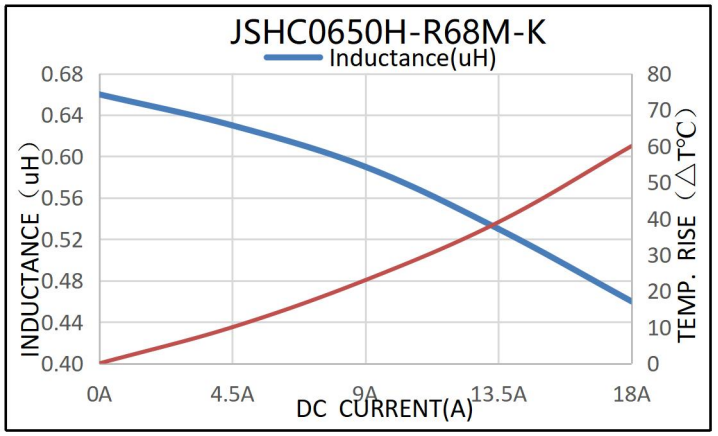
- All data is tested on 25℃ ambient temperature.
- Inductance is tested at 100kHz, 1.0V.
- Heat rating current: The value of DC current when product temperature rise is ΔT40℃ (Ta=25℃).
- Saturation current: The value of DC current when the inductance decreases approximately 30% of its.

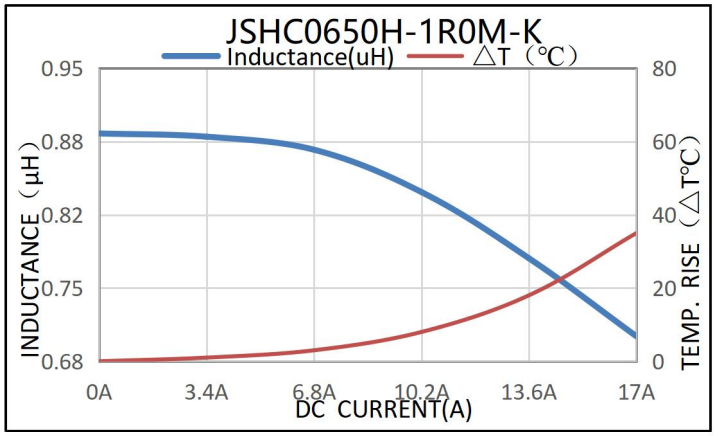
Special remind: Circuit design, component placement, frequency, cooling system and etc.
all will affect the product temperature. Please verify the actual product temperature in the final application.

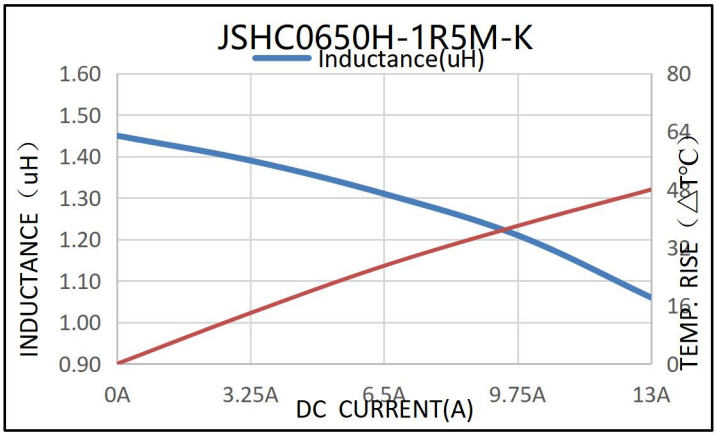
6.Heat rating current VS saturation current curv

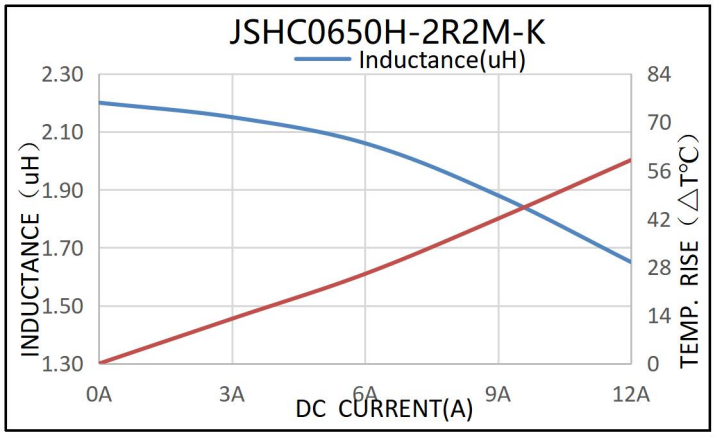


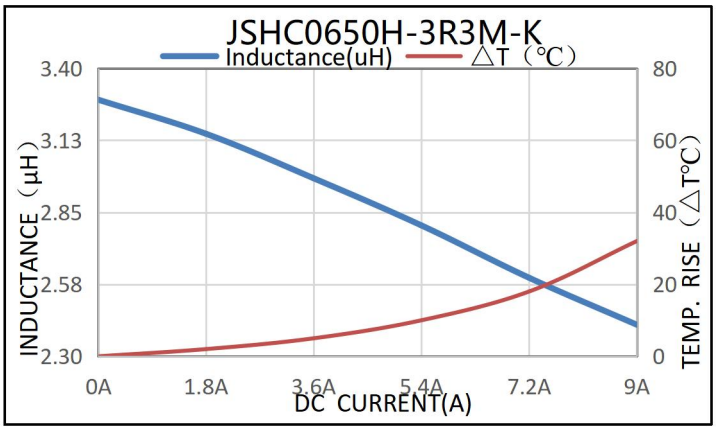


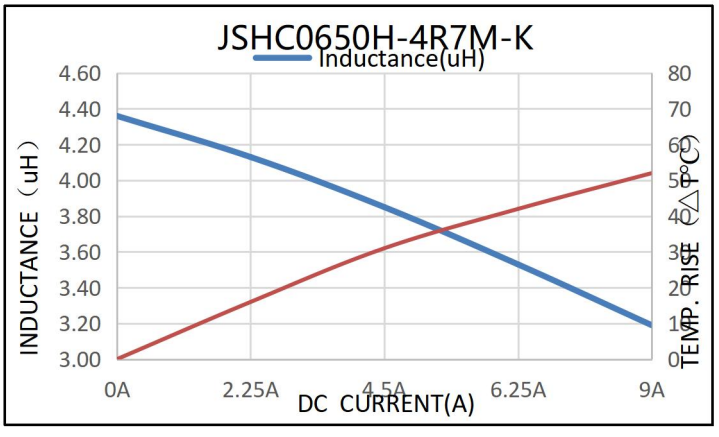


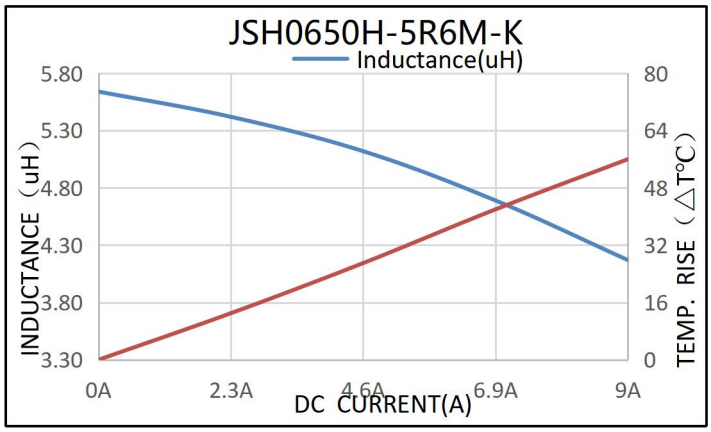


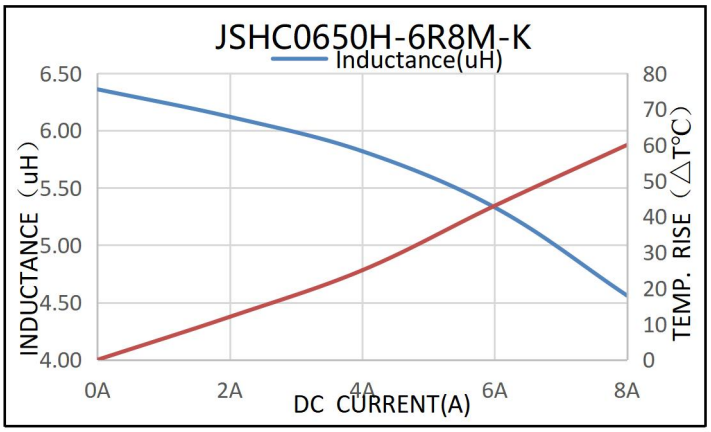


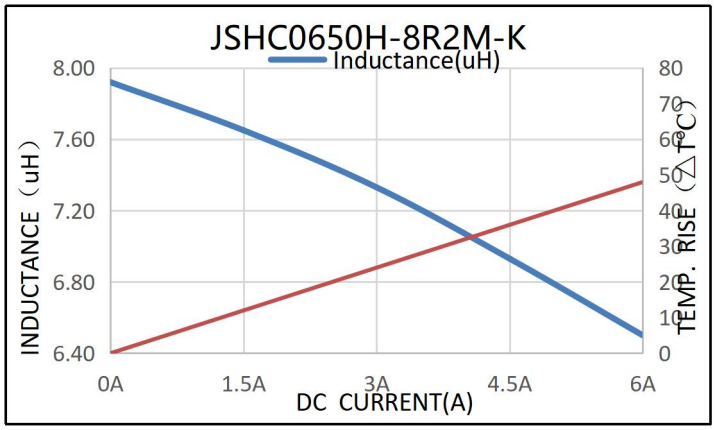


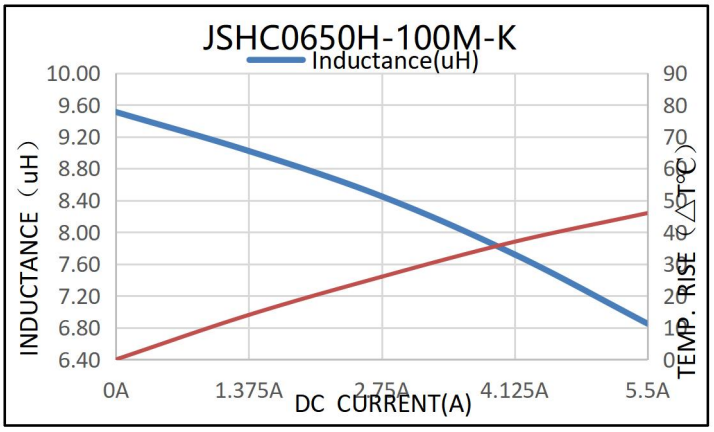


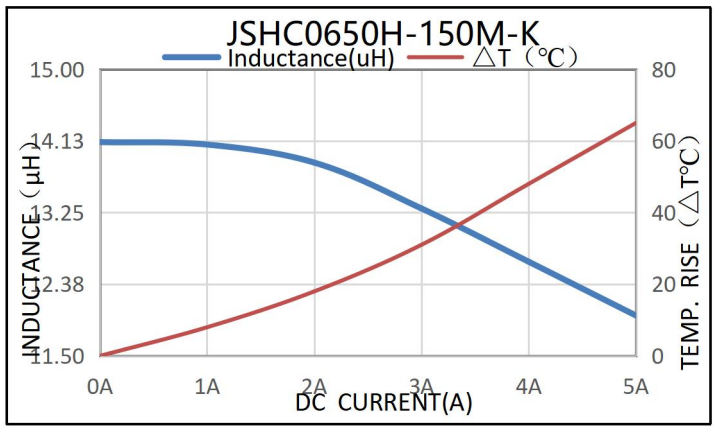


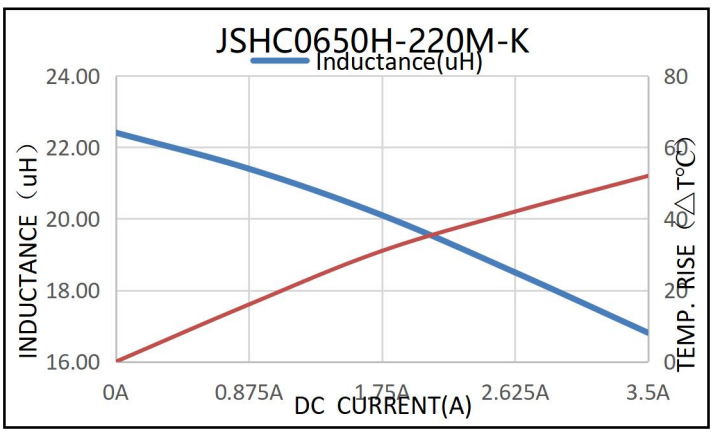

JSH0650H-5R6M-K
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T°C）
5.80
5.30
4.80
4.30
3.80
3.30
80
64
48
32
16
0
0A
2.3A
4.6A
6.9A
9A
DC CURRENT(A)

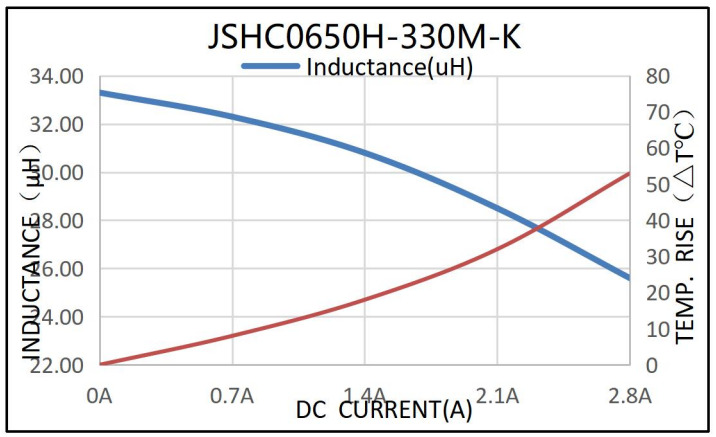

JSHC0650H-6R8M-K
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T°C）
6.50
6.00
5.50
5.00
4.50
4.00
80
70
60
50
40
30
20
10
0
0A
2A
4A
6A
8A
DC CURRENT(A)

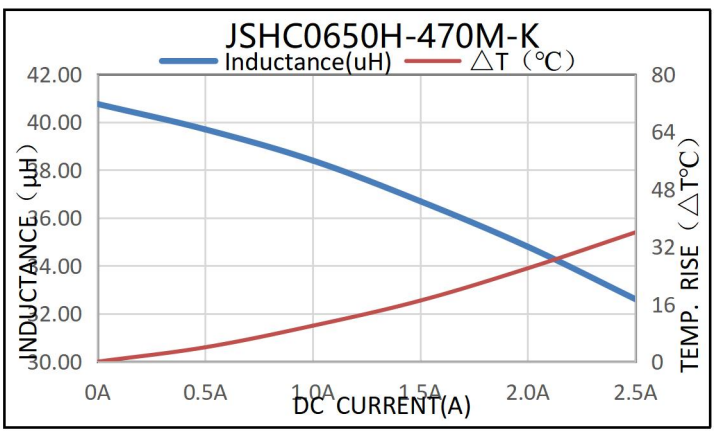

JSHC0650H-8R2M-K
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T°C）
8.00
7.60
7.20
6.80
6.40
80
70
60
50
40
30
20
10
0
0A
1.5A
3A
4.5A
6A
DC CURRENT(A)

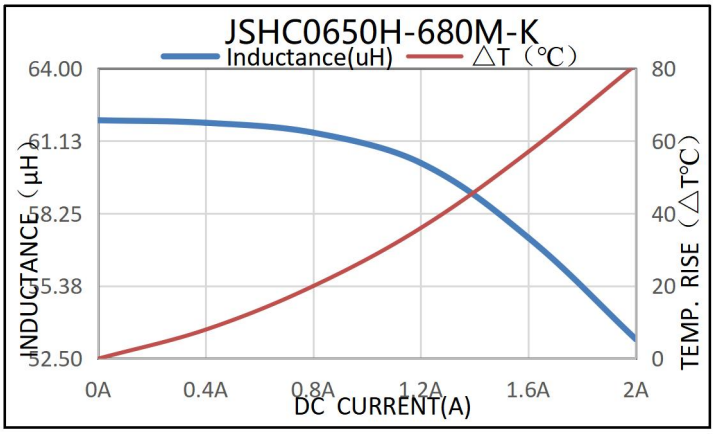

JSHC0650H-100M-K
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T°C）
10.00
9.60
9.20
8.80
8.40
8.00
7.60
7.20
6.80
6.40
90
80
70
60
50
40
30
20
10
0
0A
1.375A
2.75A
4.125A
5.5A
DC CURRENT(A)

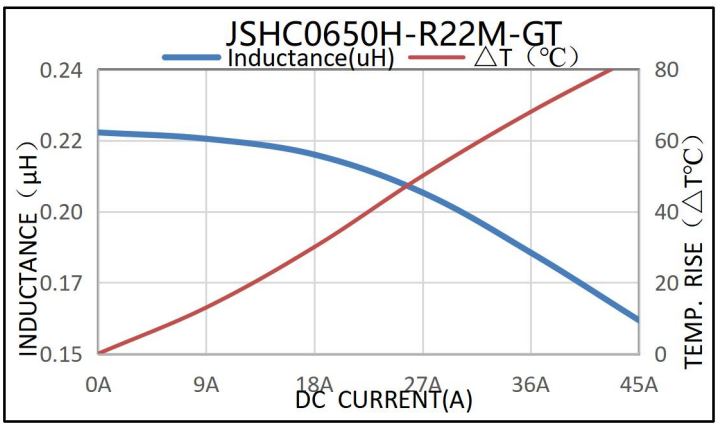

JSHC0650H-150M-K
Inductance(uH)
△T（°C）
INDUCTANCE（μH）
TEMP. RISE（△T°C）
15.00
14.13
13.25
12.38
11.50
80
60
40
20
0
0A
1A
2A
3A
4A
5A
DC CURRENT(A)

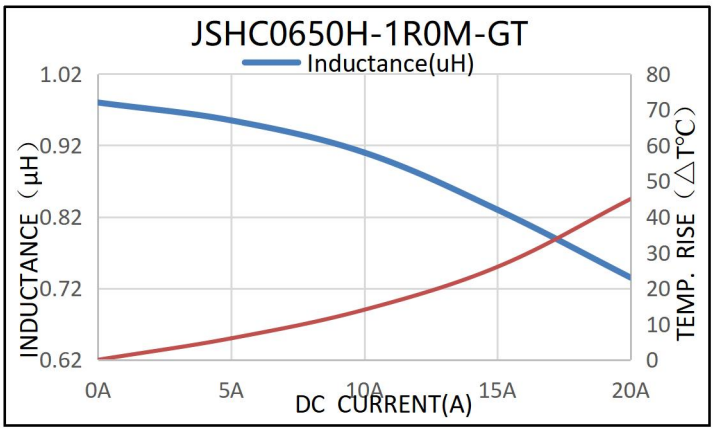

JSHC0650H-220M-K
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T°C）
24.00
22.00
20.00
18.00
16.00
80
60
40
20
0
0A
0.875A
1.75A
2.625A
3.5A
DC CURRENT(A)

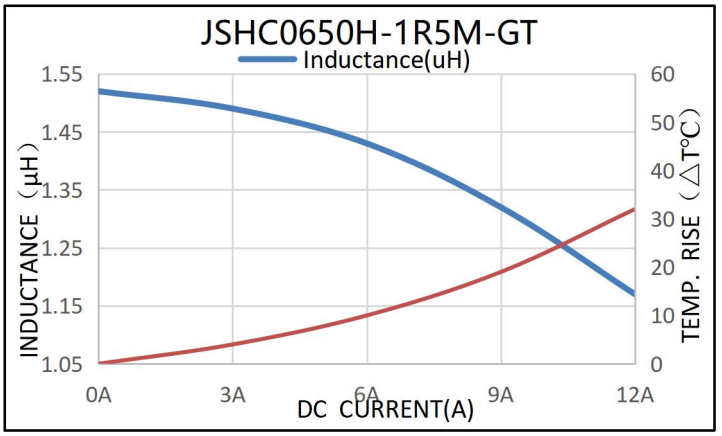

JSHC0650H-330M-K
Inductance(uH)
INDUCTANCE（μH）
TEMP. RISE（△T°C）
34.00
32.00
30.00
28.00
26.00
24.00
22.00
80
70
60
50
40
30
20
10
0
0A
0.7A
1.4A
2.1A
2.8A
DC CURRENT(A)

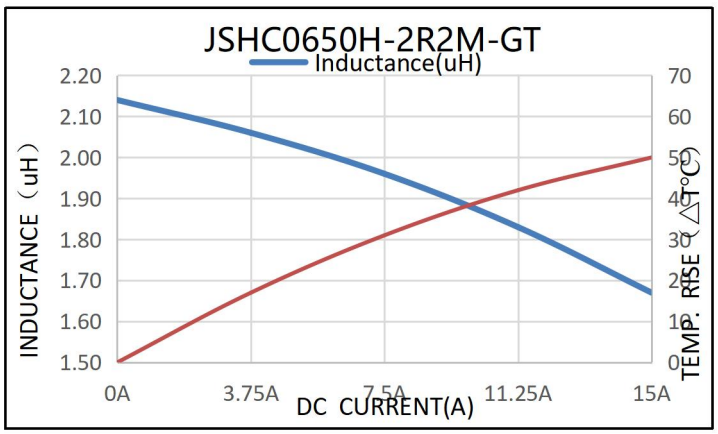

JSHC0650H-470M-K
Inductance(uH)
△T（°C）
INDUCTANCE（μH）
TEMP. RISE（△T°C）
42.00
40.00
38.00
36.00
34.00
32.00
30.00
80
64
48
32
16
0
0A
0.5A
1.0A
1.5A
2.0A
2.5A
DC CURRENT(A)

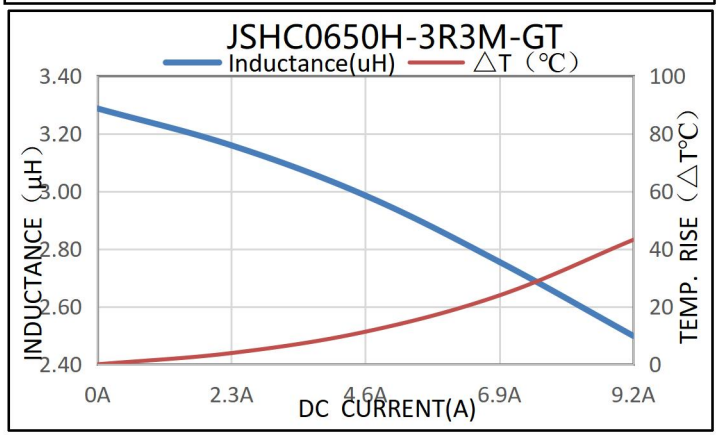

JSHC0650H-680M-K
Inductance(uH)
△T（℃）
INDUCTANCE（μH）
TEMP. RISE（△T℃）
64.00
61.13
58.25
55.38
52.50
80
60
40
20
0
0A
0.4A
0.8A
1.2A
1.6A
2A
DC CURRENT(A)

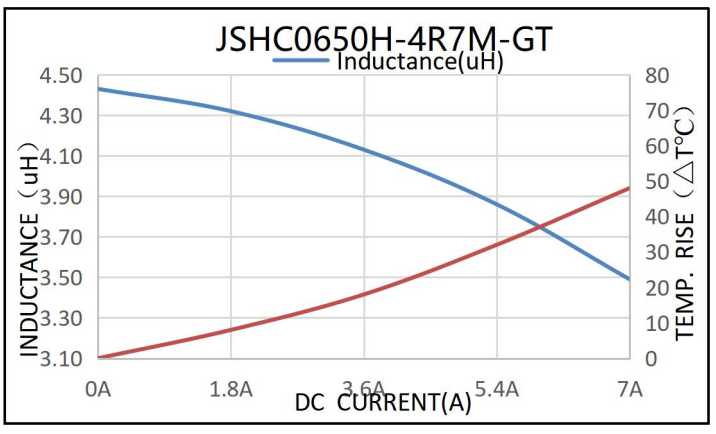

JSHC0650H-R22M-GT
Inductance(uH)
△T（℃）
INDUCTANCE（μH）
TEMP. RISE（△T℃）
0.24
0.22
0.20
0.17
0.15
80
60
40
20
0
0A
9A
18A
27A
36A
45A
DC CURRENT(A)

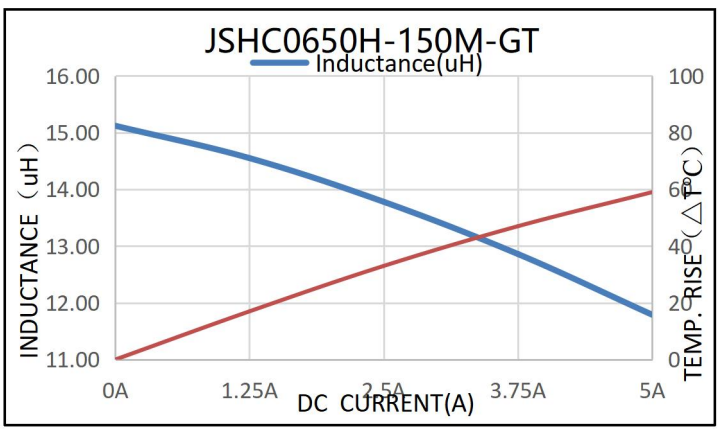

JSHC0650H-1R0M-GT
Inductance(uH)
INDUCTANCE（μH）
TEMP. RISE（△T℃）
1.02
0.92
0.82
0.72
0.62
80
70
60
50
40
30
20
10
0
0A
5A
10A
15A
20A
DC CURRENT(A)

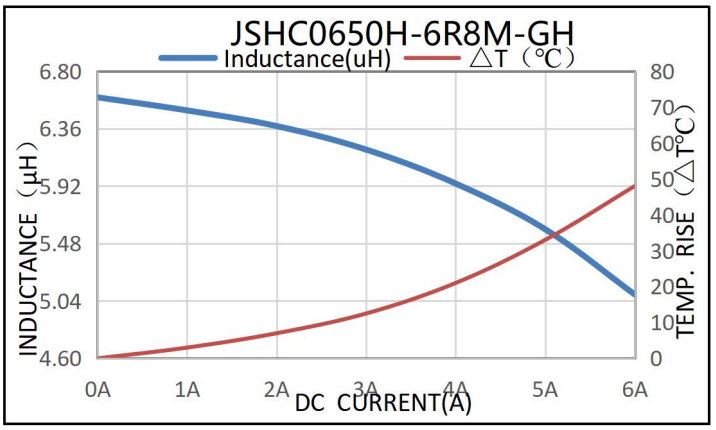

JSHC0650H-1R5M-GT
Inductance(uH)
INDUCTANCE（μH）
TEMP. RISE（△T℃）
1.55
1.45
1.35
1.25
1.15
1.05
60
50
40
30
20
10
0
0A
3A
6A
9A
12A
DC CURRENT(A)

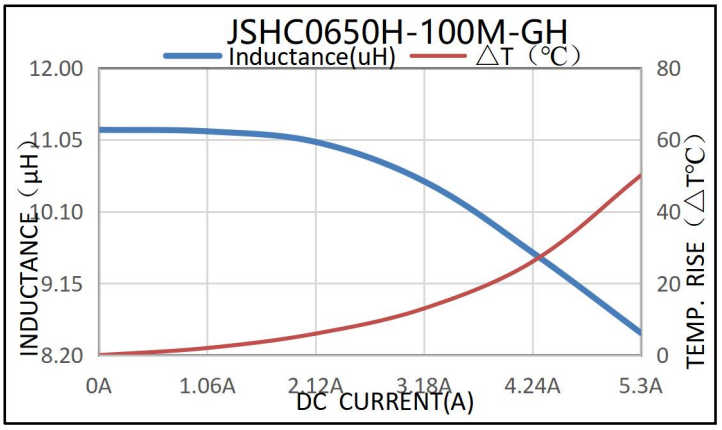

JSHC0650H-2R2M-GT
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
70
60
50
40
30
20
10
0
0A
3.75A
7.5A
11.25A
15A
DC CURRENT(A)

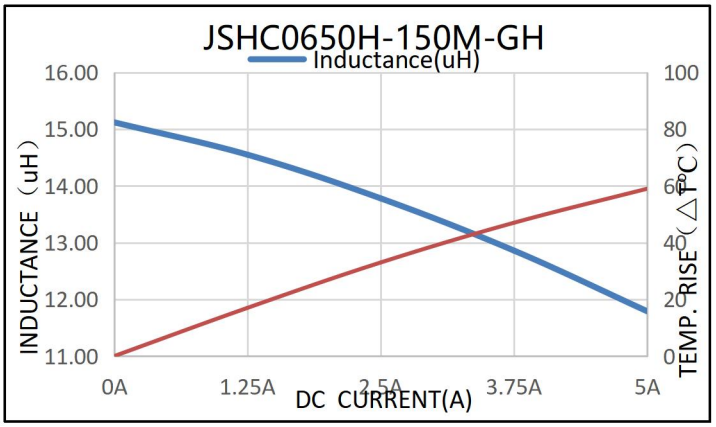

JSHC0650H-3R3M-GT
Inductance(uH)
△T（℃）
INDUCTANCE（μH）
TEMP. RISE（△T℃）
3.40
3.20
3.00
2.80
2.60
2.40
100
80
60
40
20
0
0A
2.3A
4.6A
6.9A
9.2A
DC CURRENT(A)

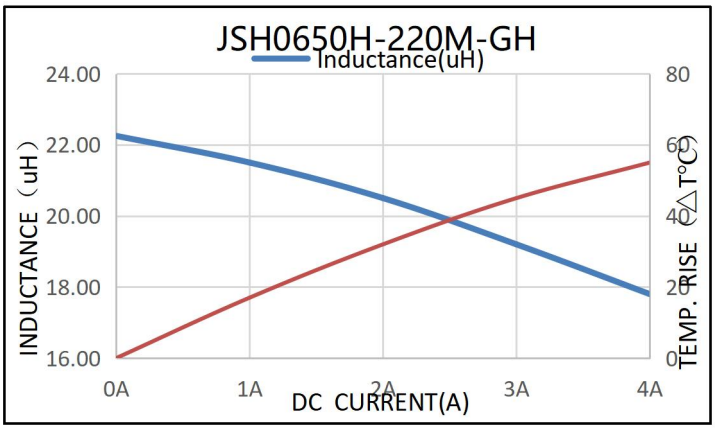

JSHC0650H-4R7M-GT
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
4.50
4.30
4.10
3.90
3.70
3.50
3.30
3.10
80
70
60
50
40
30
20
10
0
0A
1.8A
3.6A
5.4A
7A
DC CURRENT(A)

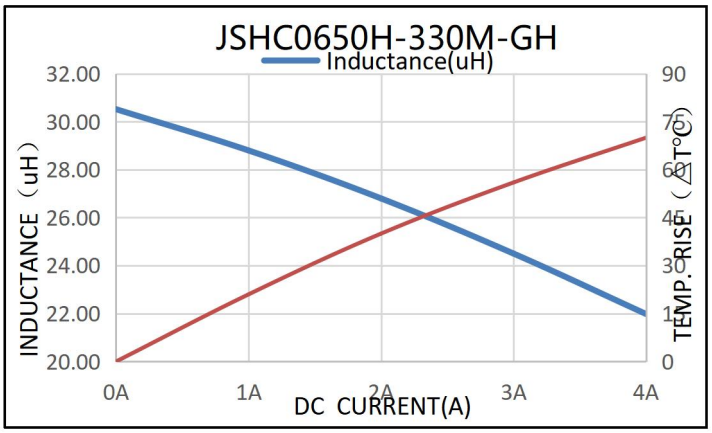

JSHC0650H-150M-GT
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
16.00
15.00
14.00
13.00
12.00
11.00
100
80
60
40
20
0
0A
1.25A
2.5A
3.75A
5A
DC CURRENT(A)

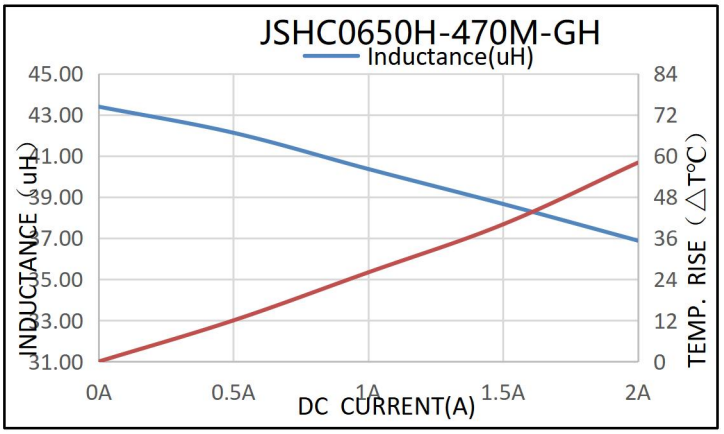

JSHC0650H-6R8M-GH
Inductance(uH)
△T（℃）
INDUCTANCE（μH）
TEMP. RISE（△T℃）
DC CURRENT(A)
6.80
6.36
5.92
5.48
5.04
4.60
80
70
60
50
40
30
20
10
0
0A
1A
2A
3A
4A
5A
6A

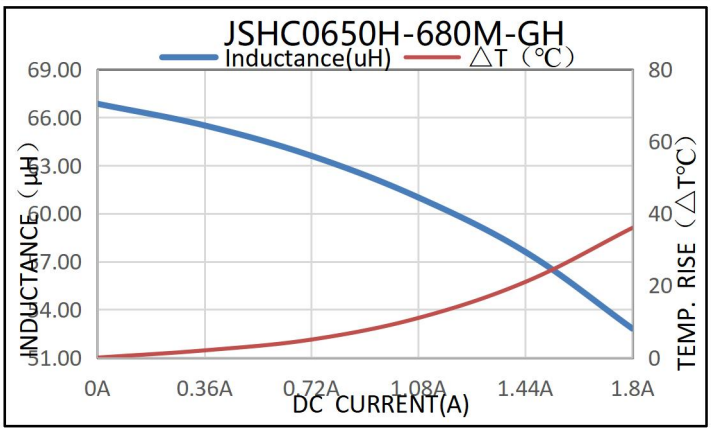

JSHC0650H-100M-GH
Inductance(uH)
△T（℃）
INDUCTANCE（μH）
TEMP. RISE（△T℃）
DC CURRENT(A)
12.00
11.05
10.10
9.15
8.20
80
60
40
20
0
0A
1.06A
2.12A
3.18A
4.24A
5.3A


JSHC0650H-150M-GH
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
DC CURRENT(A)
16.00
15.00
14.00
13.00
12.00
11.00
100
80
60
40
20
0
0A
1.25A
2.5A
3.75A
5A


JSH0650H-220M-GH
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
DC CURRENT(A)
24.00
22.00
20.00
18.00
16.00
80
60
40
20
0
0A
1A
2A
3A
4A


JSHC0650H-330M-GH
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
DC CURRENT(A)
32.00
30.00
28.00
26.00
24.00
22.00
20.00
90
75
60
45
30
15
0
0A
1A
2A
3A
4A

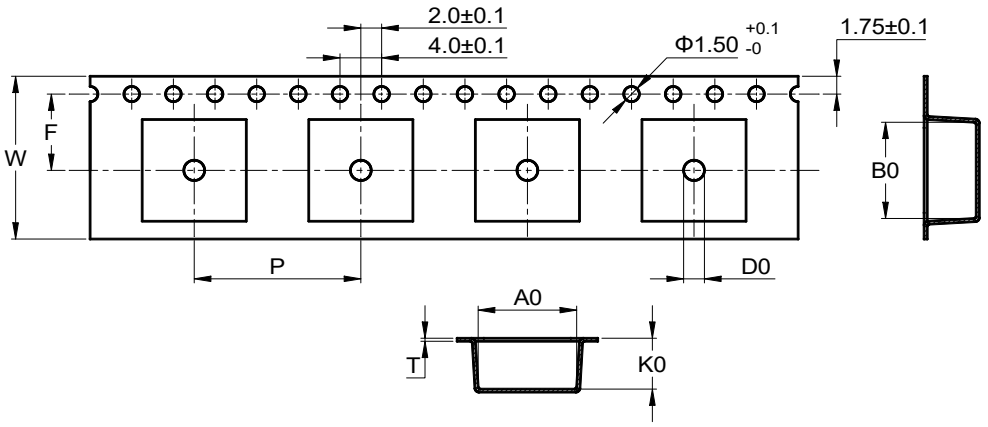

JSHC0650H-470M-GH
Inductance(uH)
INDUCTANCE（uH）
TEMP. RISE（△T℃）
DC CURRENT(A)
45.00
43.00
41.00
39.00
37.00
35.00
33.00
31.00
84
72
60
48
36
24
12
0
0A
0.5A
1A
1.5A
2A


JSHC0650H-680M-GH
Inductance(uH)
△T（℃）
INDUCTANCE（μH）
TEMP. RISE（△T℃）
DC CURRENT(A)
69.00
66.00
63.00
60.00
57.00
54.00
51.00
80
60
40
20
0
0A
0.36A
0.72A
1.08A
1.44A
1.8A

7.Packaging Specifications

Carrier tape dimensions

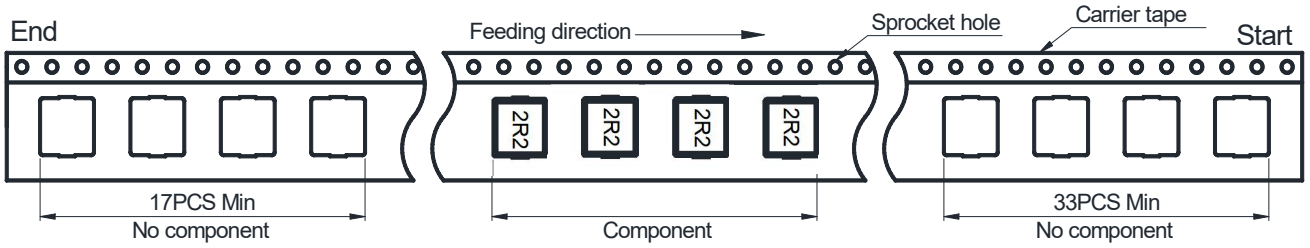
A0	7.30±0.1
B0	8.50±0.1
K0	5.50±0.1
W	16.0±0.3
P	12.0±0.1
F	7.50±0.1
T	0.35±0.05
D0	1.5±0.10



※ 包装参照国际标准 IEC 60286-3。

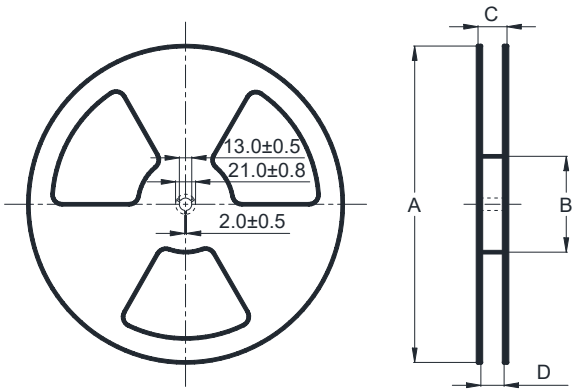
Packaging is referred to the international standard IEC 60286-3.

Packaging direction

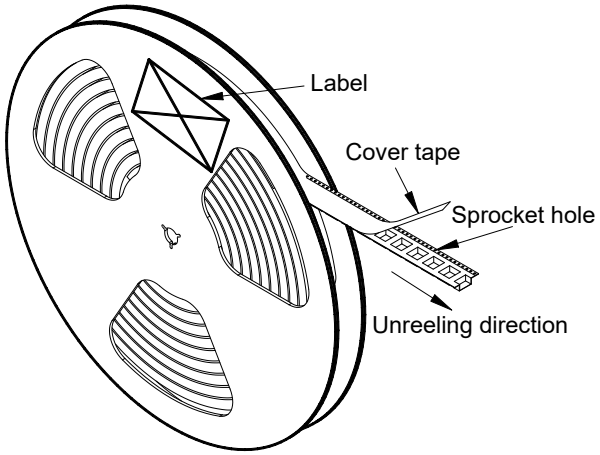


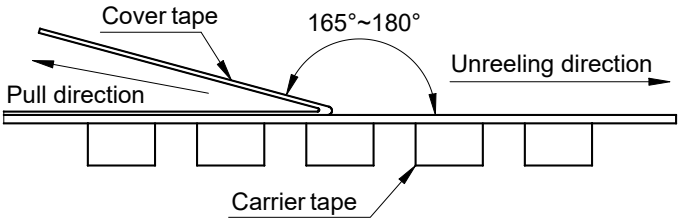
Reel dimensions

A	330 ± 2.0
B	100 Min
C	20.0Max
D	16.5 Min



Cover tape peel-off condition





※ 盖带剥离力度为 0.1～1.3N。

Cover tape peel-off force will be 0.1 to 1.3N.

※ 参考剥离速度 300±10mm/分钟。

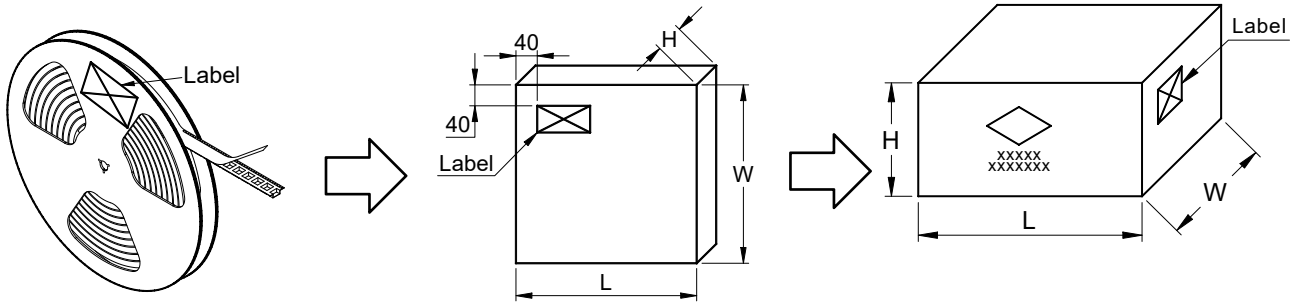
Reference peel-off speed 300±10mm/min.

Carton dimensions and packaging quantity

卷 盘 Reel

内 箱 Inner carton

外 箱 Out carton



■ 内包装箱(L×W×H)：340×340×52mm
Inner Carton

■ 外包装箱(L×W×H)：354×354×176mm
Out Carton

	每盘 包装数量 Per Reel Quatity	内箱 包装数量 Inner Carton Quatity	外箱 包装数量 Out Carton Quatity
SHC0650	1,000 pcs	(1,000×2) = 2,000 pcs	(2,000×3) = 6,000 pcs