



MORE[®] | 茂昌电子
CHANCE

CUSTOMER : STD
PRODUCTS : SHIELDED SMD Power Inductor
PART NO : MCSCS Series
CUST P/ NO :
DATE : 2024.7.18
SALES DEP :
E-MAIL :

VERSION : REV.A
CHANGE PROJECT : -
BEFORE : -
AFTER : -
CHANGE DATE : -
CUSTOMER SIGNATURE : -

APPROVAL BY :	CHECK BY :	DRAWN BY :
<i>Honey Wei</i>	<i>Leo Wang</i>	<i>May Gao</i>



MORE[®]
CHANCE

茂昌电子

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Specifications subject to change without notice. Please confirm according to our company for latest information.

TEL : 0512-6856-2977
TEL : 0755-2738-9457

MCSCS Series



- SHIELDED SMD POWER INDUCTOR
- Operating Temperature up to $-40\text{ }^{\circ}\text{C} \sim 125\text{ }^{\circ}\text{C}$
- High Current up to 8.5 A
- Low DCR down to 10 mOhms
- Environmental Lead free
- Environmental RoHS2.0 compliant
- Environmental halogen free
- Storage Temperature : $-40\text{ }^{\circ}\text{C} \sim +85\text{ }^{\circ}\text{C}$
- Packaging 13"Reel ,Plastic tape: 12/16 mm wide

FEATURES

- Large permissible DC current and low DC resistance.
- Compact and thin.
- Low cost and packed in embossed carrier tape.

Applications

- DC/CC Converter of portable equipment.
- Camcorder,LCD TV set,Digital still camera,PDA.
- Small size communication equipment.

PRODUCT IDENTIFICATION

MC SCS 316 Z R47 N
 ① ② ③ ④ ⑤ ⑥

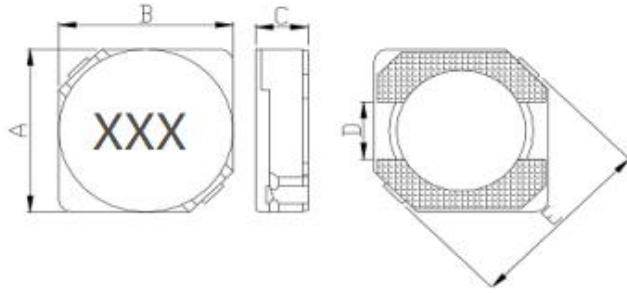
- ① Brand & Product classification
- ② Product Series NO.
- ③ External Dimensions.(316: L:3.0 × W:3.0 × H:1.6)) [mm]
- ④ Separator code.
- ⑤ Inductance. (Exp. 0.47 uH = R47)

Example	Nominal Value
R47	0.47uH
1R5	1.5uH
1R0	1.0uH
2R2	2.2uH

- ⑥ Inductance Tolerance.(L: $\pm 15\%$; M: $\pm 20\%$; N: $\pm 30\%$)

Mechanical & Dimensions

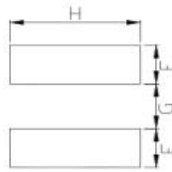
(Unit: mm)



Code	Dimensions
A	3.8 ± 0.2
B	3.8 ± 0.2
C	1.8 Max
D	1.15 Ref
E	5.20 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	1.6 Ref
G	1.2 Ref
H	4.4 Ref

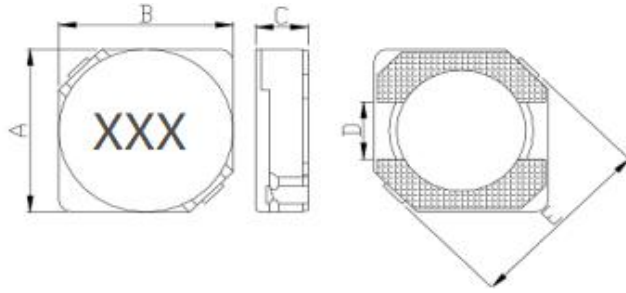
Electrical Characteristics

Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS316ZR47N	0.47 ± 30%	35.0	2.75	R47		
MCSCS316Z1R0N	1.0 ± 30%	50.0	1.90	1R0		
MCSCS316Z1R5N	1.5 ± 30%	52.0	1.55	1R5		
MCSCS316Z2R2N	2.2 ± 30%	72.0	1.20	2R2		
MCSCS316Z3R3N	3.3 ± 30%	85.0	1.10	3R3		
MCSCS316Z4R7N	4.7 ± 30%	105.0	0.90	4R7		
MCSCS316Z6R8N	6.8 ± 30%	170.0	0.73	6R8		
MCSCS316Z100N	10.0 ± 30%	210.0	0.55	100		
MCSCS316Z150N	15.0 ± 30%	295.0	0.45	150		
MCSCS316Z220N	22.0 ± 30%	430.0	0.40	220		
MCSCS316Z330N	33.0 ± 30%	675.0	0.32	330		

Note:
 1. Inductance is measured at 100 KHz and 1.0 Vrms.
 2. The nominal DCR is measured at 25°C ambient temperature.
 3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

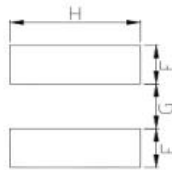
(Unit: mm)



Code	Dimensions
A	3.8 ± 0.2
B	3.8 ± 0.2
C	2.0 Max
D	1.15 Ref
E	5.20 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	1.6 Ref
G	1.2 Ref
H	4.4 Ref

Electrical Characteristics

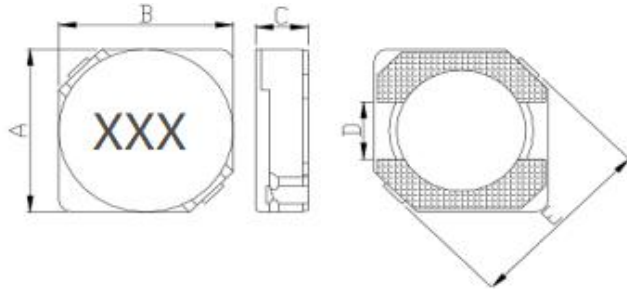
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS318Z1R0N	1.0 ± 30%	50.0	2.80	1R0		
MCSCS318Z2R2N	2.2 ± 30%	63.0	1.80	2R2		
MCSCS318Z3R0N	3.0 ± 30%	69.0	1.60	3R0		
MCSCS318Z4R7N	4.7 ± 30%	108.0	1.35	4R7		
MCSCS318Z6R8N	6.8 ± 30%	150.0	1.10	6R8		
MCSCS318Z100N	10.0 ± 30%	205.0	0.90	100		
MCSCS318Z120N	12.0 ± 30%	275.0	0.80	120		
MCSCS318Z150N	15.0 ± 30%	302.0	0.75	150		
MCSCS318Z220N	22.0 ± 30%	424.0	0.60	220		
MCSCS318Z330N	33.0 ± 30%	640.0	0.50	330		
MCSCS318Z470N	47.0 ± 30%	964.0	0.40	470		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

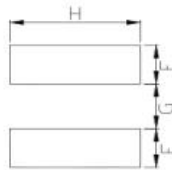
(Unit: mm)



Code	Dimensions
A	3.8 ± 0.2
B	3.8 ± 0.2
C	3.1 Max
D	1.15 Ref
E	5.20 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	1.6 Ref
G	1.2 Ref
H	4.4 Ref

Electrical Characteristics

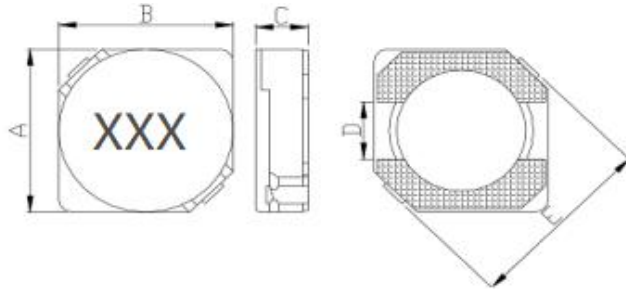
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS328Z100N	10.0 ± 30%	92.0	0.50	100		
MCSCS328Z120N	12.0 ± 30%	100.0	0.45	120		
MCSCS328Z150N	15.0 ± 30%	113.0	0.40	150		
MCSCS328Z180N	18.0 ± 30%	125.0	0.35	180		
MCSCS328Z220N	22.0 ± 30%	146.0	0.33	220		
MCSCS328Z270N	27.0 ± 30%	176.0	0.29	270		
MCSCS328Z330N	33.0 ± 30%	214.0	0.28	330		
MCSCS328Z390N	39.0 ± 30%	225.0	0.25	390		
MCSCS328Z470N	47.0 ± 30%	304.0	0.23	470		
MCSCS328Z560N	56.0 ± 30%	324.0	0.20	560		
MCSCS328Z680N	68.0 ± 30%	472.0	0.18	680		
MCSCS328Z820N	82.0 ± 30%	539.0	0.17	820		
MCSCS328Z101M	100.0 ± 20%	608.0	0.16	101		
MCSCS328Z121M	120.0 ± 20%	757.0	0.13	121		
MCSCS328Z151M	150.0 ± 20%	882.0	0.12	151		
MCSCS328Z181M	180.0 ± 20%	1130.0	0.11	181		
MCSCS328Z221M	220.0 ± 20%	1269.0	0.10	221		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

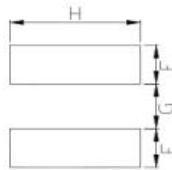
(Unit: mm)



Code	Dimensions
A	4.7 ± 0.3
B	4.7 ± 0.3
C	2.0 Max
D	1.5 Ref
E	6.9 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	1.9 Ref
G	1.5 Ref
H	5.3 Ref

Electrical Characteristics

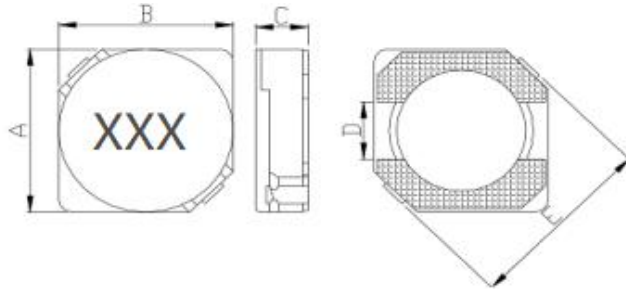
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS418Z1R0N	1.0 ± 30%	45.0	1.72	1R0		
MCSCS418Z2R2N	2.2 ± 30%	75.0	1.32	2R2		
MCSCS418Z2R7N	2.7 ± 30%	105.0	1.28	2R7		
MCSCS418Z3R3N	3.3 ± 30%	110.0	1.04	3R3		
MCSCS418Z3R9N	3.9 ± 30%	155.0	0.88	3R9		
MCSCS418Z4R7N	4.7 ± 30%	162.0	0.84	4R7		
MCSCS418Z5R6N	5.6 ± 30%	170.0	0.80	5R6		
MCSCS418Z6R8N	6.8 ± 30%	200.0	0.76	6R8		
MCSCS418Z8R2N	8.2 ± 30%	245.0	0.68	8R2		
MCSCS418Z100N	10.0 ± 30%	200.0	0.61	100		
MCSCS418Z120N	12.0 ± 30%	210.0	0.56	120		
MCSCS418Z150N	15.0 ± 30%	240.0	0.50	150		
MCSCS418Z180N	18.0 ± 30%	338.0	0.48	180		
MCSCS418Z220N	22.0 ± 30%	397.0	0.41	220		
MCSCS418Z270N	27.0 ± 30%	441.0	0.35	270		
MCSCS418Z330N	33.0 ± 30%	694.0	0.32	330		
MCSCS418Z390N	39.0 ± 30%	709.0	0.30	390		
MCSCS418Z470N	47.0 ± 30%	922.0	0.28	470		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

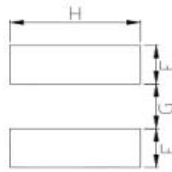
(Unit: mm)



Code	Dimensions
A	4.7 ± 0.3
B	4.7 ± 0.3
C	2.0 Max
D	1.5 Ref
E	6.9 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	1.9 Ref
G	1.5 Ref
H	5.3 Ref

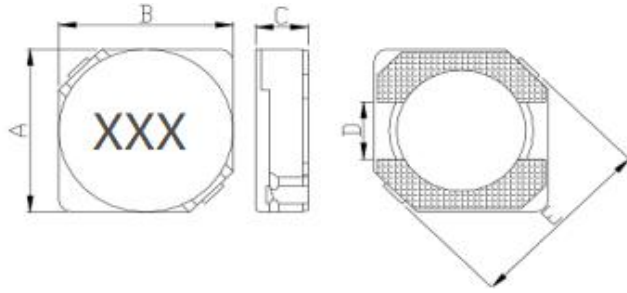
Electrical Characteristics

Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS418Z560N	56.0 ± 30%	1080.0	0.26	560		
MCSCS418Z680N	68.0 ± 30%	1300.0	0.24	680		
MCSCS418Z820N	82.0 ± 30%	1550.0	0.22	820		
MCSCS418Z101M	100.0 ± 20%	1730.0	0.20	101		
MCSCS418Z121M	120.0 ± 20%	2390.0	0.18	121		
MCSCS418Z151M	150.0 ± 20%	2670.0	0.15	151		
MCSCS418Z181M	180.0 ± 20%	4000.0	0.14	181		

Note:
 1. Inductance is measured at 100 KHz and 1.0 Vrms.
 2. The nominal DCR is measured at 25°C ambient temperature.
 3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

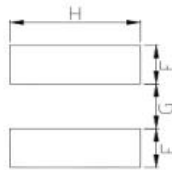
(Unit: mm)



Code	Dimensions
A	4.7 ± 0.3
B	4.7 ± 0.3
C	3.0 Max
D	1.5 Ref
E	6.9 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	1.9 Ref
G	1.5 Ref
H	5.3 Ref

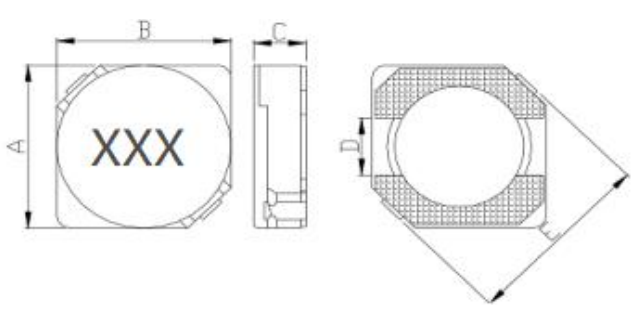
Electrical Characteristics

Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS428Z1R2N	1.2 ± 30%	24.0	2.56	1R2		
MCSCS428Z1R8N	1.8 ± 30%	28.0	2.20	1R8		
MCSCS428Z2R2N	2.2 ± 30%	31.0	2.04	2R2		
MCSCS428Z2R7N	2.7 ± 30%	43.0	1.60	2R7		
MCSCS428Z3R3N	3.3 ± 30%	49.0	1.57	3R3		
MCSCS428Z3R9N	3.9 ± 30%	65.0	1.44	3R9		
MCSCS428Z4R7N	4.7 ± 30%	72.0	1.32	4R7		
MCSCS428Z5R6N	5.6 ± 30%	101.0	1.17	5R6		
MCSCS428Z6R8N	6.8 ± 30%	109.0	1.12	6R8		
MCSCS428Z8R2N	8.2 ± 30%	118.0	1.04	8R2		
MCSCS428Z100N	10.0 ± 30%	128.0	1.00	100		
MCSCS428Z120N	12.0 ± 30%	132.0	0.84	120		
MCSCS428Z150N	15.0 ± 30%	149.0	0.76	150		
MCSCS428Z180N	18.0 ± 30%	166.0	0.72	180		
MCSCS428Z220N	22.0 ± 30%	235.0	0.70	220		
MCSCS428Z270N	27.0 ± 30%	261.0	0.58	270		
MCSCS428Z330N	33.0 ± 30%	378.0	0.56	330		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions (Unit: mm)

	Code	Dimensions
	A	4.7 ± 0.3
	B	4.7 ± 0.3
	C	3.0 Max
	D	1.5 Ref
	E	6.9 Ref

Recommend Land Pattern Dimensions (Unit: mm)

	Code	Dimensions
	F	1.9 Ref
	G	1.5 Ref
	H	5.3 Ref

Electrical Characteristics

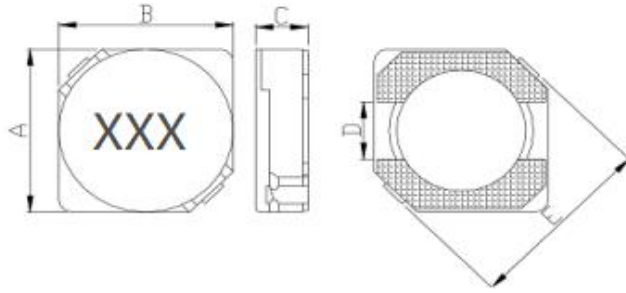
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS428Z390N	39.0 ± 30%	384.0	0.50	390		
MCSCS428Z470N	47.0 ± 30%	587.0	0.48	470		
MCSCS428Z560N	56.0 ± 30%	625.0	0.41	560		
MCSCS428Z680N	68.0 ± 30%	699.0	0.35	680		
MCSCS428Z820N	82.0 ± 30%	915.0	0.32	820		
MCSCS428Z101M	100.0± 20%	1020.0	0.29	101		
MCSCS428Z121M	120.0± 20%	1270.0	0.27	121		
MCSCS428Z151M	150.0± 20%	1350.0	0.24	151		
MCSCS428Z181M	180.0± 20%	1540.0	0.22	181		
MCSCS428Z221M	220.0± 20%	1720.0	0.20	221		
MCSCS428Z271M	270.0± 20%	1950.0	0.16	271		
MCSCS428Z331M	330.0± 20%	2660.0	0.14	331		
MCSCS428Z391M	390.0± 20%	2830.0	0.13	391		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

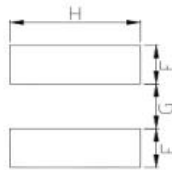
(Unit: mm)



Code	Dimensions
A	5.7 ± 0.3
B	5.7 ± 0.3
C	2.0 Max
D	2.0 Ref
E	8.2 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	2.15 Ref
G	2.0 Ref
H	6.3 Ref

Electrical Characteristics

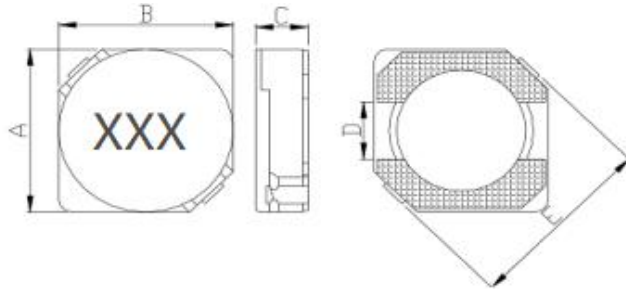
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS518Z4R1N	4.1 ± 30%	57.0	1.95	4R1		
MCSCS518Z6R2N	6.2 ± 30%	96.0	1.40	6R2		
MCSCS518Z100N	10.0 ± 30%	124.0	1.20	100		
MCSCS518Z120N	12.0 ± 30%	153.0	1.10	120		
MCSCS518Z150N	15.0 ± 30%	196.0	0.97	150		
MCSCS518Z180N	18.0 ± 30%	210.0	0.85	180		
MCSCS518Z220N	22.0 ± 30%	290.0	0.80	220		
MCSCS518Z330N	33.0 ± 30%	386.0	0.65	330		
MCSCS518Z470N	47.0 ± 30%	595.0	0.54	470		
MCSCS518Z680N	68.0 ± 30%	840.0	0.43	680		
MCSCS518Z820N	82.0 ± 30%	978.0	0.41	820		
MCSCS518Z101M	100.0± 20%	1200.0	0.36	101		
MCSCS518Z121M	120.0± 20%	1500.0	0.33	121		
MCSCS518Z151M	150.0± 20%	1710.0	0.31	151		
MCSCS518Z181M	180.0± 20%	2240.0	0.28	181		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

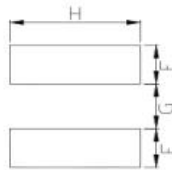
(Unit: mm)



Code	Dimensions
A	5.7 ± 0.3
B	5.7 ± 0.3
C	3.0 Max
D	2.0 Ref
E	8.2 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	2.15 Ref
G	2.0 Ref
H	6.3 Ref

Electrical Characteristics

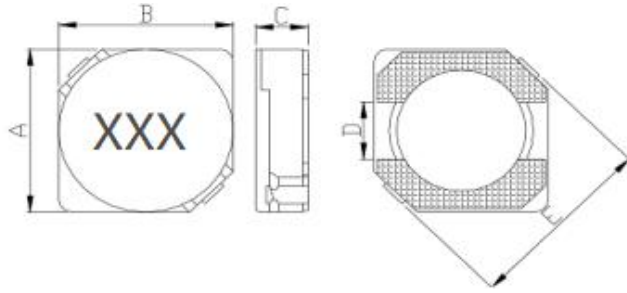
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS528Z1R0N	1.0 ± 30%	15.0	2.80	1R0		
MCSCS528Z2R2N	2.2 ± 30%	23.0	2.60	2R2		
MCSCS528Z5R6N	5.6 ± 30%	38.0	1.90	5R6		
MCSCS528Z8R2N	8.2 ± 30%	53.0	1.60	8R2		
MCSCS528Z100N	10.0 ± 30%	65.0	1.30	100		
MCSCS528Z120N	12.0 ± 30%	76.0	1.20	120		
MCSCS528Z180N	18.0 ± 30%	110.0	1.00	180		
MCSCS528Z220N	22.0 ± 30%	122.0	0.90	220		
MCSCS528Z330N	33.0 ± 30%	189.0	0.75	330		
MCSCS528Z470N	47.0 ± 30%	260.0	0.62	470		
MCSCS528Z680N	68.0 ± 30%	355.0	0.52	680		
MCSCS528Z101M	100.0 ± 20%	520.0	0.42	101		
MCSCS528Z151M	150.0 ± 20%	680.0	0.35	151		
MCSCS528Z181M	180.0 ± 20%	930.0	0.32	181		
MCSCS528Z221M	220.0 ± 20%	1150.0	0.30	221		
MCSCS528Z271M	270.0 ± 20%	1560.0	0.27	271		
MCSCS528Z331M	330.0 ± 20%	1980.0	0.25	331		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

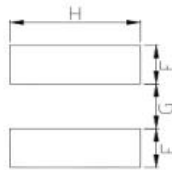
(Unit: mm)



Code	Dimensions
A	6.7 ± 0.3
B	6.7 ± 0.3
C	3.0 Max
D	2.0 Ref
E	9.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	2.65 Ref
G	2.0 Ref
H	7.3 Ref

Electrical Characteristics

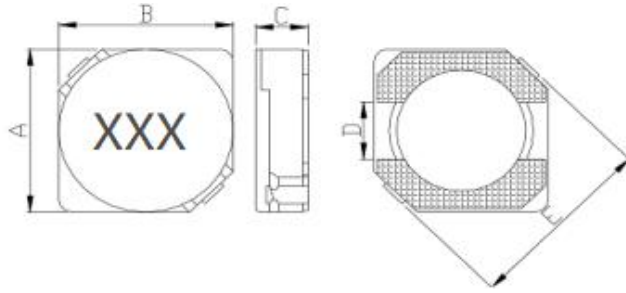
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS628Z3R0N	3.0 ± 30%	24.0	3.00	3R0		
MCSCS628Z3R9N	3.9 ± 30%	27.0	2.60	3R9		
MCSCS628Z5R0N	5.0 ± 30%	31.0	2.40	5R0		
MCSCS628Z6R0N	6.0 ± 30%	35.0	2.25	6R0		
MCSCS628Z7R3N	7.3 ± 30%	54.0	2.10	7R3		
MCSCS628Z8R6N	8.6 ± 30%	58.0	1.85	8R6		
MCSCS628Z100N	10.0 ± 30%	65.0	1.70	100		
MCSCS628Z120N	12.0 ± 30%	70.0	1.55	120		
MCSCS628Z150N	15.0 ± 30%	84.0	1.40	150		
MCSCS628Z180N	18.0 ± 30%	95.0	1.32	180		
MCSCS628Z220N	22.0 ± 30%	128.0	1.20	220		
MCSCS628Z270N	27.0 ± 30%	142.0	1.05	270		
MCSCS628Z330N	33.0 ± 30%	165.0	0.97	330		
MCSCS628Z390N	39.0 ± 30%	210.0	0.86	390		
MCSCS628Z470N	47.0 ± 30%	238.0	0.80	470		
MCSCS628Z560N	56.0 ± 30%	277.0	0.73	560		
MCSCS628Z680N	68.0 ± 30%	304.0	0.65	680		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

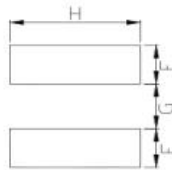
(Unit: mm)



Code	Dimensions
A	6.7 ± 0.3
B	6.7 ± 0.3
C	3.0 Max
D	2.0 Ref
E	9.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	2.65 Ref
G	2.0 Ref
H	7.3 Ref

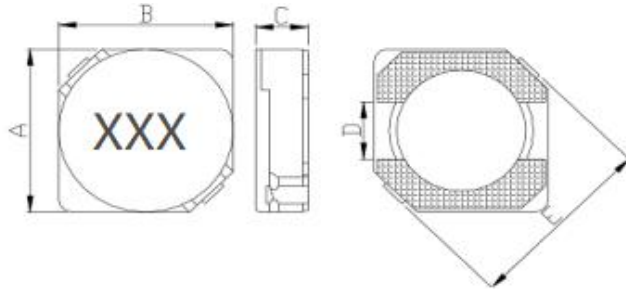
Electrical Characteristics

Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS628Z820N	82.0 ± 30%	390.0	0.60	820		
MCSCS628Z101M	100.0 ± 20%	535.0	0.54	101		
MCSCS628Z121M	120.0 ± 20%	750.0	0.51	121		
MCSCS628Z151M	150.0 ± 20%	950.0	0.47	151		
MCSCS628Z181M	180.0 ± 20%	1200.0	0.41	181		
MCSCS628Z221M	220.0 ± 20%	1500.0	0.37	221		
MCSCS628Z271M	270.0 ± 20%	1700.0	0.33	271		
MCSCS628Z331M	330.0 ± 20%	2150.0	0.28	331		
MCSCS628Z391M	390.0 ± 20%	2250.0	0.27	391		
MCSCS628Z471M	470.0 ± 20%	3150.0	0.21	471		

Note:
 1. Inductance is measured at 100 KHz and 1.0 Vrms.
 2. The nominal DCR is measured at 25°C ambient temperature.
 3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

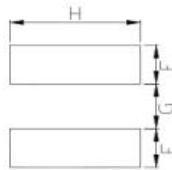
(Unit: mm)



Code	Dimensions
A	6.7 ± 0.3
B	6.7 ± 0.3
C	4.0 Max
D	2.0 Ref
E	9.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	2.65 Ref
G	2.0 Ref
H	7.3 Ref

Electrical Characteristics

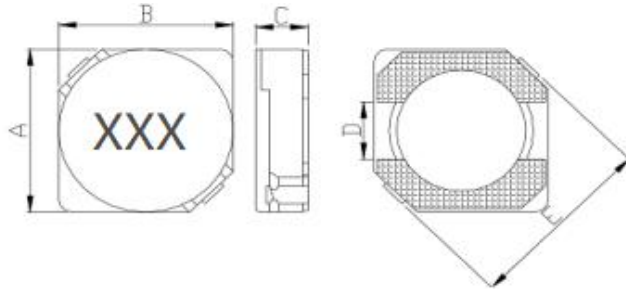
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS638Z3R0N	3.0 ± 30%	20.0	3.50	3R0		
MCSCS638Z5R0N	5.0 ± 30%	24.0	2.90	5R0		
MCSCS638Z6R2N	6.2 ± 30%	27.0	2.50	6R2		
MCSCS638Z7R3N	7.3 ± 30%	31.0	2.30	7R3		
MCSCS638Z8R6N	8.6 ± 30%	34.0	2.20	8R6		
MCSCS638Z100N	10.0 ± 30%	38.0	2.00	100		
MCSCS638Z120N	12.0 ± 30%	53.0	1.70	120		
MCSCS638Z150N	15.0 ± 30%	57.0	1.60	150		
MCSCS638Z180N	18.0 ± 30%	92.0	1.50	180		
MCSCS638Z220N	22.0 ± 30%	96.0	1.30	220		
MCSCS638Z270N	27.0 ± 30%	109.0	1.20	270		
MCSCS638Z330N	33.0 ± 30%	124.0	1.10	330		
MCSCS638Z390N	39.0 ± 30%	138.0	1.00	390		
MCSCS638Z470N	47.0 ± 30%	155.0	0.95	470		
MCSCS638Z560N	56.0 ± 30%	202.0	0.85	560		
MCSCS638Z680N	68.0 ± 30%	234.0	0.75	680		
MCSCS638Z820N	82.0 ± 30%	324.0	0.70	820		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

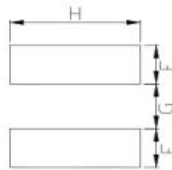
(Unit: mm)



Code	Dimensions
A	6.7 ± 0.3
B	6.7 ± 0.3
C	4.0 Max
D	2.0 Ref
E	9.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	2.65 Ref
G	2.0 Ref
H	7.3 Ref

Electrical Characteristics

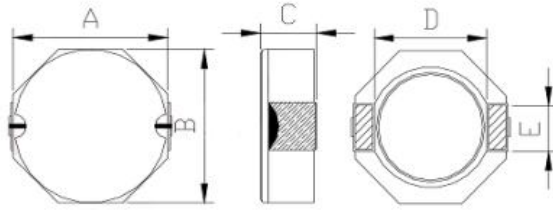
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Marking		
MCSCS638Z101M	100.0 ± 20%	358.0	0.65	101		
MCSCS638Z121M	120.0 ± 20%	470.0	0.59	121		
MCSCS638Z151M	150.0 ± 20%	580.0	0.54	151		
MCSCS638Z181M	180.0 ± 20%	690.0	0.49	181		
MCSCS638Z221M	220.0 ± 20%	890.0	0.43	221		
MCSCS638Z271M	270.0 ± 20%	1290.0	0.40	271		
MCSCS638Z331M	330.0 ± 20%	1700.0	0.37	331		
MCSCS638Z391M	390.0 ± 20%	1750.0	0.34	391		
MCSCS638Z471M	470.0 ± 20%	2200.0	0.32	471		
MCSCS638Z561M	560.0 ± 20%	2850.0	0.29	561		
MCSCS638Z681M	680.0 ± 20%	3200.0	0.25	681		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.

Mechanical & Dimensions

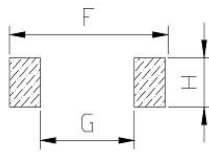
(Unit: mm)



Code	Dimensions
A	8.0 ± 0.3
B	8.0 ± 0.3
C	3.0 Max
D	6.3 Ref
E	2.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	10.1 Ref
G	6.1 Ref
H	2.8 Ref

Electrical Characteristics

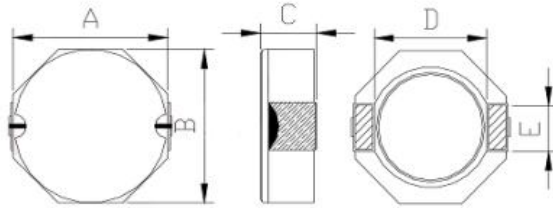
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Heat Rating Current(A)		
MCSCS828Z1R0N	1.0 ± 30%	11.0	6.50	7.00		
MCSCS828Z2R5N	2.5 ± 30%	16.0	4.50	6.40		
MCSCS828Z3R3N	3.3 ± 30%	19.0	4.00	6.00		
MCSCS828Z4R7N	4.7 ± 30%	25.0	3.40	4.50		
MCSCS828Z7R3N	7.3 ± 30%	39.0	2.80	3.40		
MCSCS828Z100N	10.0 ± 30%	47.0	2.50	3.20		
MCSCS828Z150N	15.0 ± 30%	69.0	1.90	2.35		
MCSCS828Z220N	22.0 ± 30%	99.0	1.60	1.85		
MCSCS828Z330N	33.0 ± 30%	156.0	1.30	1.49		
MCSCS828Z470N	47.0 ± 30%	195.0	1.15	1.30		
MCSCS828Z680N	68.0 ± 30%	286.0	0.92	0.98		
MCSCS828Z101M	100.0 ± 20%	430.0	0.75	0.80		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.
4. The Heat Rating Current that will cause temperature rise approximate 40°C without core loss.

Mechanical & Dimensions

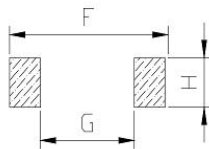
(Unit: mm)



Code	Dimensions
A	8.0 ± 0.3
B	8.0 ± 0.3
C	4.0 Max
D	6.3 Ref
E	2.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	10.1 Ref
G	6.1 Ref
H	2.8 Ref

Electrical Characteristics

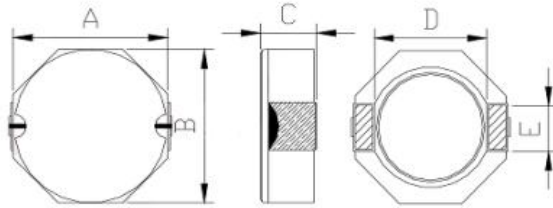
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Heat Rating Current(A)		
MCSCS838Z1R8N	1.8 ± 30%	16.0	7.00	6.80		
MCSCS838Z2R5N	2.5 ± 30%	18.0	6.50	6.00		
MCSCS838Z3R3N	3.3 ± 30%	24.0	5.00	5.20		
MCSCS838Z4R7N	4.7 ± 30%	29.0	4.60	4.40		
MCSCS838Z6R0N	6.0 ± 30%	32.0	4.20	4.00		
MCSCS838Z100N	10.0 ± 30%	48.0	3.00	3.20		
MCSCS838Z150N	15.0 ± 30%	67.0	2.75	2.50		
MCSCS838Z220N	22.0 ± 30%	105.0	2.30	2.00		
MCSCS838Z330N	33.0 ± 30%	157.0	1.75	1.60		
MCSCS838Z470N	47.0 ± 30%	189.0	1.52	1.42		
MCSCS838Z680N	68.0 ± 30%	290.0	1.30	1.08		
MCSCS838Z101M	100.0 ± 20%	410.0	1.05	0.88		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.
4. The Heat Rating Current that will cause temperature rise approximate 40°C without core loss.

Mechanical & Dimensions

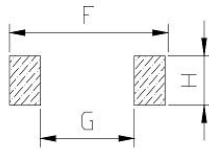
(Unit: mm)



Code	Dimensions
A	8.0 ± 0.3
B	8.0 ± 0.3
C	4.5 Max
D	6.3 Ref
E	2.5 Ref

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
F	10.1 Ref
G	6.1 Ref
H	2.8 Ref

Electrical Characteristics

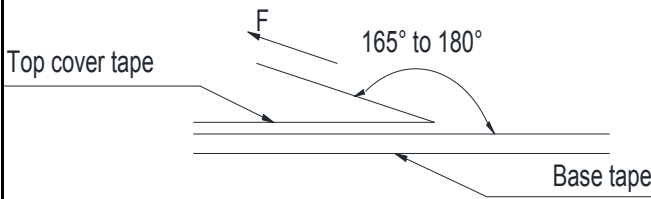
Part Number	Inductance ¹ (μH)	DCR ² (mΩ) Max	I-sat ³ (Amps) Typ	Heat Rating Current(A)		
MCSCS843Z1R0N	1.0 ± 30%	10.0	8.50	6.60		
MCSCS843Z1R2N	1.2 ± 30%	13.0	8.00	6.20		
MCSCS843Z2R2N	2.2 ± 30%	14.0	7.00	5.50		
MCSCS843Z3R9N	3.9 ± 30%	19.0	5.90	4.50		
MCSCS843Z4R7N	4.7 ± 30%	22.0	5.60	4.10		
MCSCS843Z6R8N	6.8 ± 30%	25.0	4.40	3.90		
MCSCS843Z100N	10.0 ± 30%	36.0	4.00	3.20		
MCSCS843Z150N	15.0 ± 30%	53.0	2.90	2.30		
MCSCS843Z220N	22.0 ± 30%	75.0	2.60	1.80		
MCSCS843Z330N	33.0 ± 30%	125.0	2.20	1.40		
MCSCS843Z470N	47.0 ± 30%	150.0	1.80	1.30		
MCSCS843Z680N	68.0 ± 30%	240.0	1.50	1.00		
MCSCS843Z101M	100.0 ± 20%	360.0	1.30	0.80		

Note:

1. Inductance is measured at 100 KHz and 1.0 Vrms.
2. The nominal DCR is measured at 25°C ambient temperature.
3. The I-sat that will cause initial inductance value approximately 35% rolloff.
4. The Heat Rating Current that will cause temperature rise approximate 40°C without core loss.

Packaging

Tearing Off Force:



The force tearing off cobe tape is 10 to 130 g.f			
in the arrow direction under the following conditions			
Room Temp (°C)	Room Humidity (%)	Room atrn (hPa)	Teaming Speed (mm/min)
5~35	45~85	860~1060	300

※Storage Conditions

1. Temperature and humidity conditions:
-40°C ~ +85°C and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

※Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

Recommended Soldering Conditions

Figure 1. Re-flow Soldering

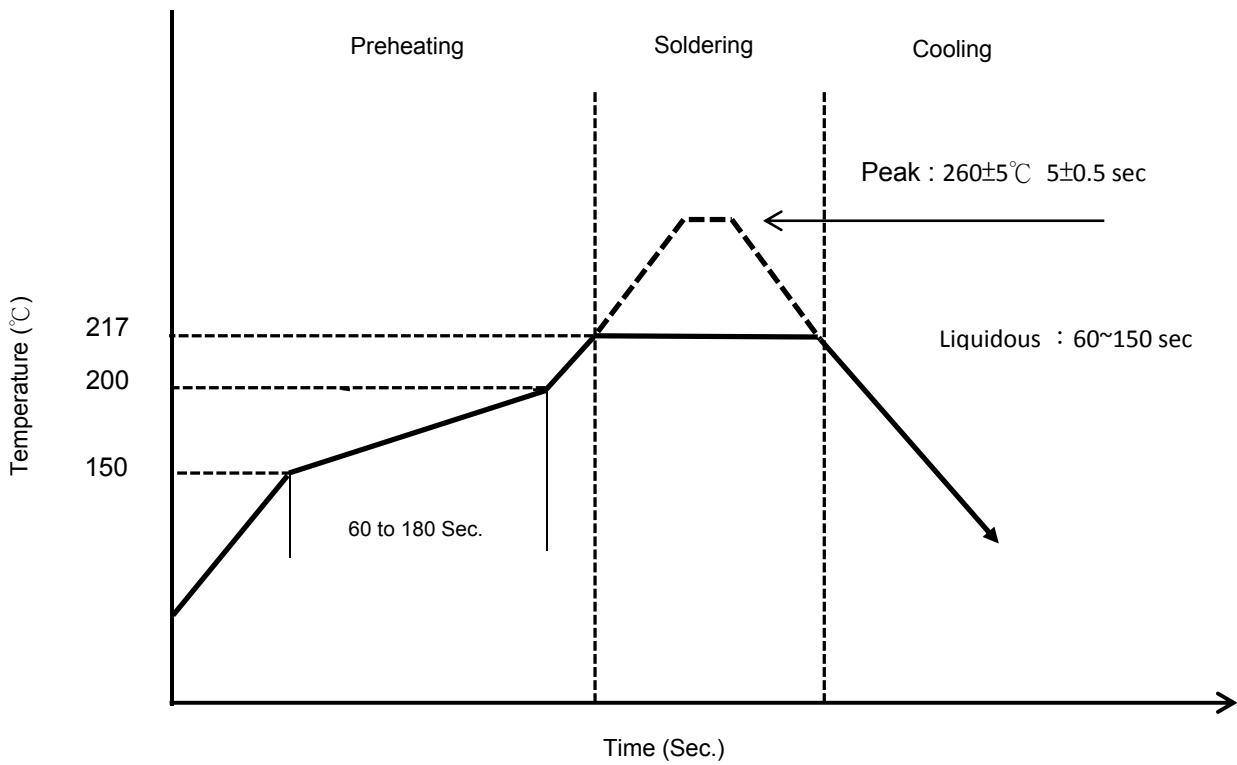
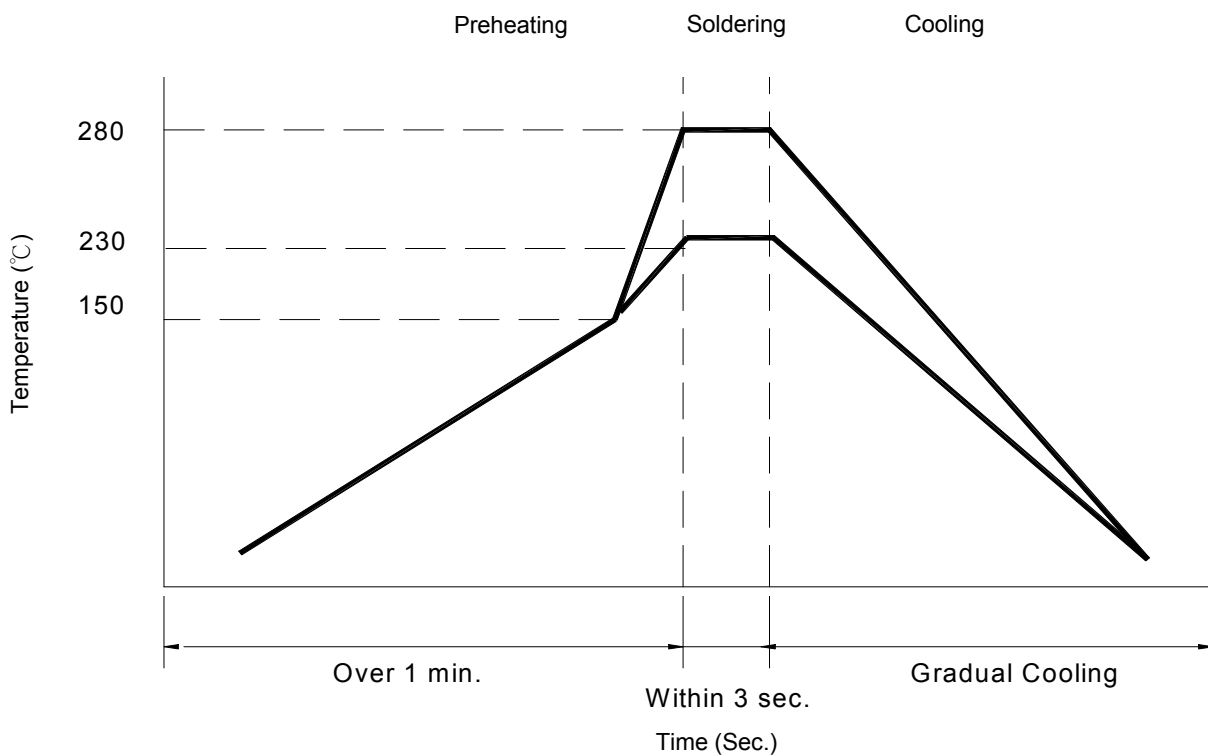
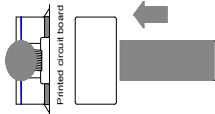


Figure 2. Hand Soldering



Reliability and Testing Conditions

Item	Specification	Conditions															
Operating temperature range	-40°C ~ +125°C (Including self-temperature rise)																
Storage temperature and humidity range	-40°C ~ +85°C , 70% RH Max																
Solderability	More than 90% of the terminal electrode should be covered with solder.	<ul style="list-style-type: none"> - Preheat: 150 °C , 60 sec - Solder: Sn96.5%-Ag3%-Cu0.5% - Temperature: 245±5°C - Flux for lead free: Rosin 9.5% - Dip time: 4±1 sec - Depth: completely cover the termination 															
Resistance to Soldering Heat	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	<ul style="list-style-type: none"> - Solder technique simulation: SMD - Temperature (°C): 260 ± 5 (solder temp) - Time (s): 10 ± 1 - Temperature ramp / immersion and emersion rate: 25 mm/s ± 6 mm/s - Number of heat cycles: 1 															
Resistance to High Temperature	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	500 hrs. at 125°C±3°C Unpowered. Measurement at 24±4 hours after test conclusion.															
Resistance to Low Temperature	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	500 hrs. at -40°C±3°C. Unpowered. Measurement at 24±4 hours after test conclusion.															
Resistance to Humidity	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 500 hours in 40±2°C and 90 to 95% humidity , and 24±4 hour drying under normal condition.															
Thermal shock	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	<p style="text-align: center;">After 100 cycles of following condition.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Times (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±3°C</td> <td>30</td> </tr> <tr> <td>2</td> <td>Room Temperature</td> <td>Within 3</td> </tr> <tr> <td>3</td> <td>125±3°C</td> <td>30</td> </tr> <tr> <td>4</td> <td>Room Temperature</td> <td>Within 3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Times (min.)	1	-40±3°C	30	2	Room Temperature	Within 3	3	125±3°C	30	4	Room Temperature	Within 3
Step	Temperature (°C)	Times (min.)															
1	-40±3°C	30															
2	Room Temperature	Within 3															
3	125±3°C	30															
4	Room Temperature	Within 3															
Vibration Test	Inductance within ±10% of initial value and appearance shall not break.	After vibration for 1hour, In each of three orientations at sweep vibration (10~55~10Hz) with 1.52mm P-P Amplitudes.															
Terminal strength	The terminal electrode and the ferrite must not be damaged	<p>Solder a chip to test substrate, and then laterally apply a load 10N in the arrow direction, Duration :5s</p> 															
Drop Test	Inductance within ±10% of initial value. The appearance shall not break.	Drop 3 times on a concrete floor from a height of 75cm by inimum packing															