



SPECIFICATION FOR APPROVAL

CUSTOMER : STD

CUSTOMER PART NO :

PRODUCTS : SMD POWER INDUCTOR

PART NO: MCSCH Series

DATE: 2018.08.17

SALES: 产品部

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APPROVAL SIGNATURE 客户承认签章	

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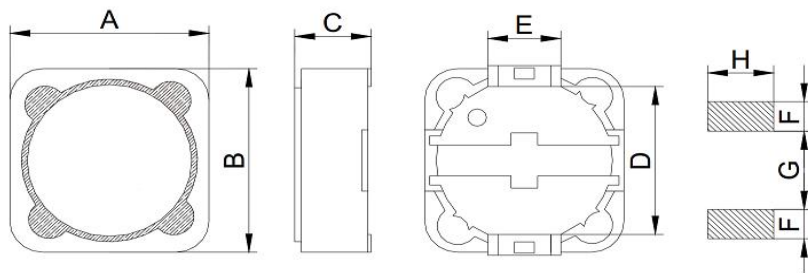
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SMD Power Inductors



Feature

1. High current and inductance capacity.
2. Specially designed for surface mounting.
equipment, good for high density application.
3. Low profile very effective in space-conscious applications.
4. Low resistance and high-energy storage.

Application

Power supply for VTR, OA equipment, LCD TV,
Notebook PC, DC/DC Converter, DC/AC Inverter.

Product Identification

MC SCH 73Z 1R0 N
A B C D E

A : Company code

B : Series Name.

C : Dimension.

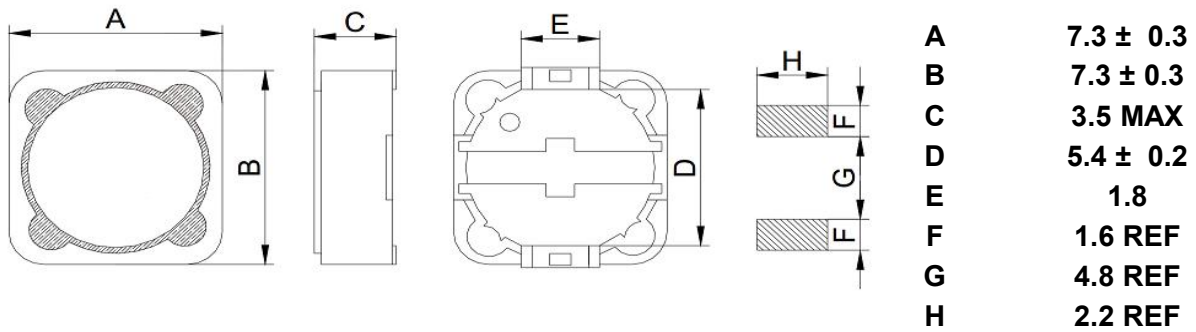
D Inductance. (for example 1R0= 1.0uH)

E Inductance Tolerance. (for example
K=±10% ,M=±20% ,N=±30%)

Shielded Construction--MC SCH73Z Series

1. Mechanical & Dimensions

(UNIT: mm)



2. Electrical characteristics

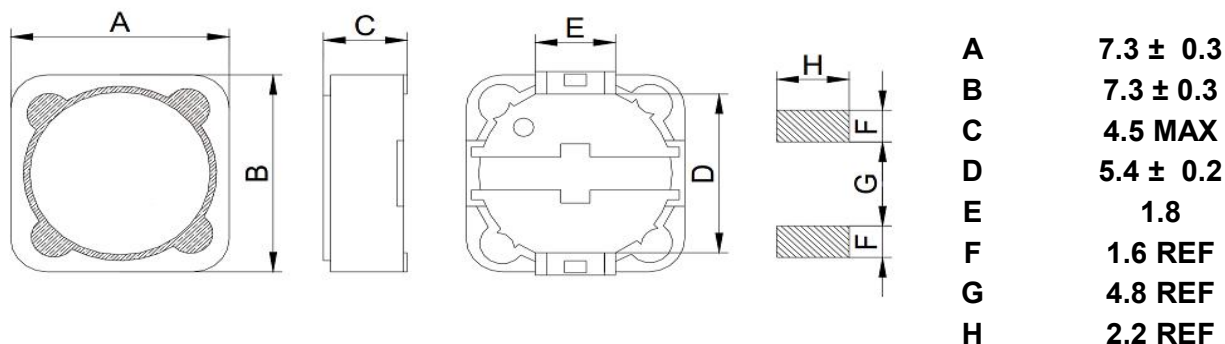
Part Number	Inductance L0(uH)	DCR (mΩ)	I-sat (Amps)	MARKING
	100KHZ/1.0V	MAX	≥75%L0	
MC SCH73Z1R0N	1.0 ± 30%	16	7.97	1R0
MC SCH73Z1R5N	1.5 ± 30%	23	5.50	1R5
MC SCH73Z2R2N	2.2 ± 30%	27	4.50	2R2
MC SCH73Z3R3N	3.3 ± 30%	31	4.00	3R3
MC SCH73Z4R7N	4.7 ± 30%	48	3.50	4R7
MC SCH73Z5R6N	5.6 ± 30%	56	3.00	5R6
MC SCH73Z6R8N	6.8 ± 30%	62	2.50	6R8
MC SCH73Z100N	10 ± 30%	72	1.68	100
MC SCH73Z150M	15 ± 20%	130	1.33	150
MC SCH73Z180M	18 ± 20%	140	1.20	180
MC SCH73Z220M	22 ± 20%	190	1.07	220
MC SCH73Z330M	33 ± 20%	240	0.91	330
MC SCH73Z390M	39 ± 20%	320	0.77	390
MC SCH73Z470M	47 ± 20%	360	0.76	470
MC SCH73Z680M	68 ± 20%	520	0.61	680
MC SCH73Z101M	100 ± 20%	790	0.50	101
MC SCH73Z151M	150 ± 20%	1270	0.43	151
MC SCH73Z181M	180 ± 20%	1450	0.39	181
MC SCH73Z221M	220 ± 20%	1650	0.35	221
MC SCH73Z331M	330 ± 20%	2620	0.28	331
MC SCH73Z391M	390 ± 20%	2940	0.26	391
MC SCH73Z471M	470 ± 20%	4180	0.24	471
MC SCH73Z561M	560 ± 20%	4670	0.22	561
MC SCH73Z681M	680 ± 20%	5730	0.19	681
MC SCH73Z821M	820 ± 20%	6540	0.18	821
MC SCH73Z102M	1000 ± 20%	9440	0.16	102

3. Operating -40℃ ~ +125℃ (Including self-temperature rise)

Shielded Construction--MC SCH74Z Series

1. Mechanical & Dimensions

(UNIT: mm)



2. Electrical characteristics

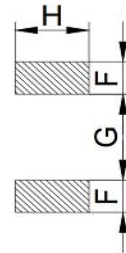
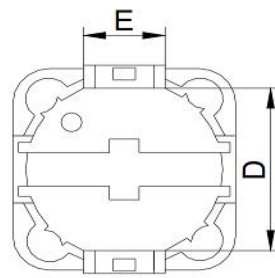
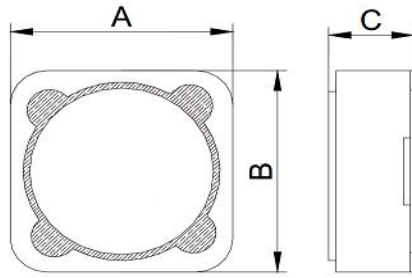
Part Number	Inductance L0(uH)	DCR (mΩ)	I-sat (Amps)	MARKING
	100KHZ/1.0V	MAX	≥75%L0	
MC SCH74Z1R0N	1.0 ± 30%	15	9.00	1R0
MC SCH74Z1R5N	1.5 ± 30%	18	7.00	1R5
MC SCH74Z2R2N	2.2 ± 30%	28	6.00	2R2
MC SCH74Z3R3N	3.3 ± 30%	32	4.80	3R3
MC SCH74Z3R9N	3.9 ± 30%	35	4.40	3R9
MC SCH74Z4R7N	4.7 ± 30%	38	4.00	4R7
MC SCH74Z5R6N	5.6 ± 30%	40	3.50	5R6
MC SCH74Z6R8N	6.8 ± 30%	45	3.00	6R8
MC SCH74Z100N	10 ± 30%	49	1.84	100
MC SCH74Z120M	12 ± 20%	58	1.71	120
MC SCH74Z150M	15 ± 20%	81	1.47	150
MC SCH74Z180M	18 ± 20%	91	1.31	180
MC SCH74Z220M	22 ± 20%	110	1.23	220
MC SCH74Z270M	27 ± 20%	150	1.12	270
MC SCH74Z330M	33 ± 20%	170	0.96	330
MC SCH74Z390M	39 ± 20%	230	0.91	390
MC SCH74Z470M	47 ± 20%	260	0.88	470
MC SCH74Z560M	56 ± 20%	350	0.80	560
MC SCH74Z680M	68 ± 20%	380	0.70	680
MC SCH74Z820M	82 ± 20%	430	0.61	820
MC SCH74Z101M	100 ± 20%	610	0.60	101
MC SCH74Z121M	120 ± 20%	660	0.52	121
MC SCH74Z151M	150 ± 20%	880	0.46	151
MC SCH74Z181M	180 ± 20%	980	0.42	181
MC SCH74Z221M	220 ± 20%	1170	0.36	221
MC SCH74Z271M	270 ± 20%	1640	0.34	271
MC SCH74Z331M	330 ± 20%	1860	0.32	331
MC SCH74Z391M	390 ± 20%	2850	0.29	391
MC SCH74Z471M	470 ± 20%	3010	0.26	471
MC SCH74Z561M	560 ± 20%	3620	0.23	561
MC SCH74Z681M	680 ± 20%	4630	0.22	681
MC SCH74Z821M	820 ± 20%	5200	0.20	821
MC SCH74Z102M	1000 ± 20%	6000	0.18	102

3. Operating -40℃ ~ +125℃ (Including self-temperature rise)

Shielded Construction--MC SCH124Z Series

1. Mechanical & Dimensions

(UNIT: mm)



A	12.0 ± 0.3
B	12.0 ± 0.3
C	4.5 MAX
D	7.6 ± 0.2
E	5.0
F	2.8 REF
G	7.0 REF
H	5.4 REF

2. Electrical characteristics

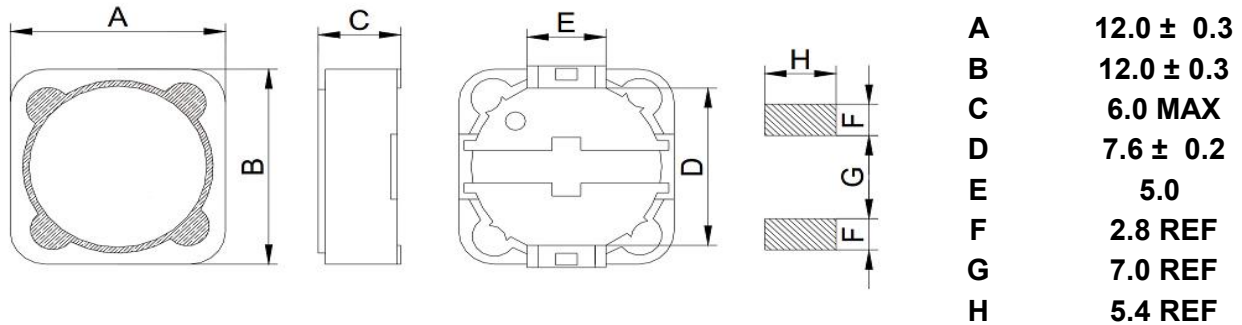
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
MC SCH124Z3R9M	3.9 ± 20%	15	6.50	3R9
MC SCH124Z4R7M	4.7 ± 20%	18	5.70	4R7
MC SCH124Z6R8M	6.8 ± 20%	23	4.90	6R8
MC SCH123Z8R2M	8.2 ± 20%	26	4.60	8R2
MC SCH123Z100N	10 ± 30%	28	4.50	100
MC SCH123Z120M	12 ± 20%	38	4.00	120
MC SCH123Z150M	15 ± 20%	50	3.20	150
MC SCH123Z180M	18 ± 20%	57	3.10	180
MC SCH123Z220M	22 ± 20%	66	2.90	220
MC SCH123Z270M	27 ± 20%	80	2.80	270
MC SCH123Z330M	33 ± 20%	97	2.70	330
MC SCH123Z390M	39 ± 20%	132	2.10	390
MC SCH123Z470M	47 ± 20%	150	1.90	470
MC SCH123Z560M	56 ± 20%	190	1.80	560
MC SCH123Z680M	68 ± 20%	220	1.50	680
MC SCH123Z820M	82 ± 20%	260	1.30	820
MC SCH123Z101M	100 ± 20%	308	1.20	101
MC SCH123Z121M	120 ± 20%	380	1.10	121
MC SCH123Z151M	150 ± 20%	530	0.95	151
MC SCH123Z181M	180 ± 20%	620	0.85	181
MC SCH123Z221M	220 ± 20%	700	0.80	221
MC SCH123Z271M	270 ± 20%	870	0.60	271
MC SCH123Z331M	330 ± 20%	990	0.50	331

3. Operating -40℃ ~ +125℃ (Including self-temperature rise)

Shielded Construction--MC SCH125Z Series

1. Mechanical & Dimensions

(UNIT: mm)



2. Electrical characteristics

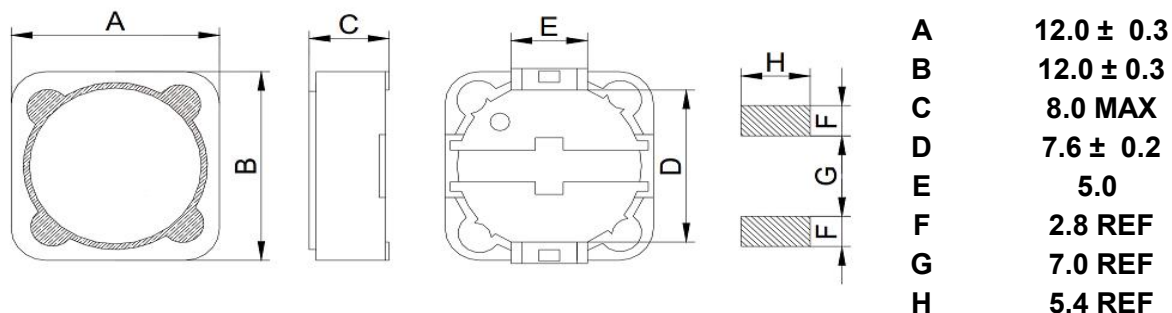
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
MC SCH125Z1R3N	1.3 ± 30%	12	8.00	1R3
MC SCH125Z2R1N	2.1 ± 30%	14	7.00	2R1
MC SCH125Z3R1N	3.1 ± 30%	17	6.00	3R1
MC SCH125Z4R4N	4.4 ± 30%	20	5.00	4R4
MC SCH125Z5R8N	5.8 ± 30%	21	4.40	5R8
MC SCH125Z7R5N	7.5 ± 30%	24	4.20	7R5
MC SCH125Z100N	10 ± 30%	25	4.00	100
MC SCH125Z120M	12 ± 20%	27	3.50	120
MC SCH125Z150M	15 ± 20%	30	3.30	150
MC SCH125Z180M	18 ± 20%	34	3.00	180
MC SCH125Z220M	22 ± 20%	36	2.80	220
MC SCH125Z270M	27 ± 20%	51	2.30	270
MC SCH125Z330M	33 ± 20%	57	2.10	330
MC SCH125Z390M	39 ± 20%	68	2.00	390
MC SCH125Z470M	47 ± 20%	75	1.80	470
MC SCH125Z560M	56 ± 20%	110	1.70	560
MC SCH125Z680M	68 ± 20%	120	1.50	680
MC SCH125Z820M	82 ± 20%	140	1.40	820
MC SCH125Z101M	100 ± 20%	160	1.30	101
MC SCH125Z121M	120 ± 20%	170	1.10	121
MC SCH125Z151M	150 ± 20%	230	1.00	151
MC SCH125Z181M	180 ± 20%	290	0.90	181
MC SCH125Z221M	220 ± 20%	400	0.80	221
MC SCH125Z271M	270 ± 20%	460	0.75	271
MC SCH125Z331M	330 ± 20%	510	0.68	331
MC SCH125Z391M	390 ± 20%	690	0.65	391
MC SCH125Z471M	470 ± 20%	770	0.58	471
MC SCH125Z561M	560 ± 20%	860	0.54	561
MC SCH125Z681M	680 ± 20%	1200	0.48	681
MC SCH125Z821M	820 ± 20%	1340	0.43	821
MC SCH125Z102M	1000 ± 20%	1530	0.40	102

3. Operating -40℃ ~ +125℃ (Including self-temperature rise)

Shielded Construction--MC SCH127Z Series

1. Mechanical & Dimensions

(UNIT: mm)



2. Electrical characteristics

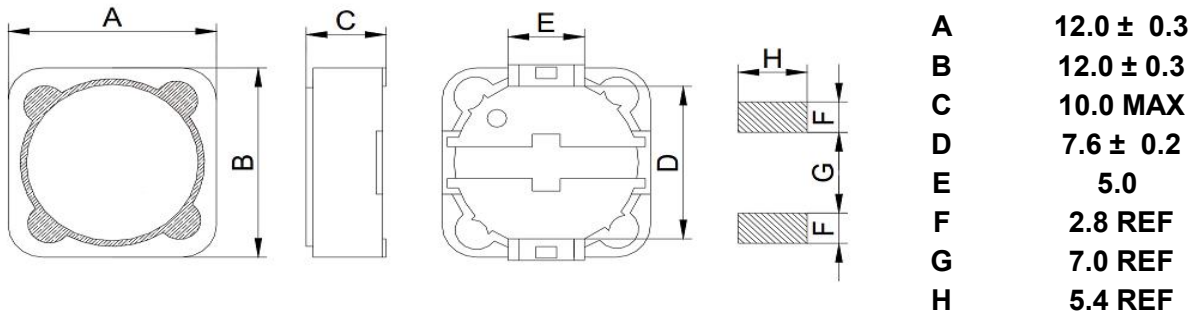
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
MC SCH127Z1R2N	1.2 ± 30%	7	9.80	1R2
MC SCH127Z2R4N	2.4 ± 30%	12	8.00	2R4
MC SCH127Z3R5N	3.5 ± 30%	14	7.50	3R5
MC SCH127Z4R7N	4.7 ± 30%	16	6.80	4R7
MC SCH127Z6R1N	6.1 ± 30%	18	6.60	6R1
MC SCH127Z7R6N	7.6 ± 30%	20	5.90	7R6
MC SCH127Z100N	10 ± 30%	22	5.40	100
MC SCH127Z120M	12 ± 20%	24	4.90	120
MC SCH127Z150M	15 ± 20%	30	4.50	150
MC SCH127Z180M	18 ± 20%	39	3.90	180
MC SCH127Z220M	22 ± 20%	43	3.60	220
MC SCH127Z270M	27 ± 20%	46	3.40	270
MC SCH127Z330M	33 ± 20%	65	3.00	330
MC SCH127Z390M	39 ± 20%	73	2.75	390
MC SCH127Z470M	47 ± 20%	100	2.50	470
MC SCH127Z560M	56 ± 20%	110	2.35	560
MC SCH127Z680M	68 ± 20%	140	2.10	680
MC SCH127Z820M	82 ± 20%	160	1.95	820
MC SCH127Z101M	100 ± 20%	220	1.70	101
MC SCH127Z121M	120 ± 20%	250	1.60	121
MC SCH127Z151M	150 ± 20%	280	1.42	151
MC SCH127Z181M	180 ± 20%	350	1.30	181
MC SCH127Z221M	220 ± 20%	390	1.16	221
MC SCH127Z271M	270 ± 20%	560	1.06	271
MC SCH127Z331M	330 ± 20%	640	0.95	331
MC SCH127Z391M	390 ± 20%	700	0.88	391
MC SCH127Z471M	470 ± 20%	980	0.79	471
MC SCH127Z561M	560 ± 20%	1070	0.73	561
MC SCH127Z681M	680 ± 20%	1460	0.67	681
MC SCH127Z821M	820 ± 20%	1640	0.60	821
MC SCH127Z102M	1000 ± 20%	1820	0.55	102

3. Operating -40℃ ~ +125℃ (Including self-temperature rise)

Shielded Construction--MC SCH129Z Series

1.Mechanical & Dimensions

(UNIT: mm)



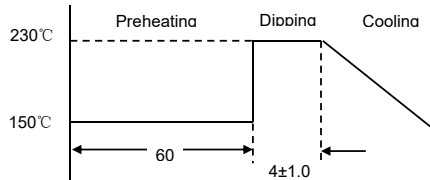
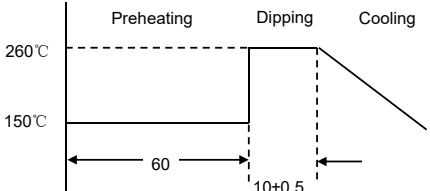
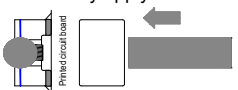
2.Electrical characteristics

Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
MC SCH129Z1R0N	1.0 ± 30%	6	19.90	1R0
MC SCH129Z1R8N	1.8 ± 30%	7	13.40	1R8
MC SCH129Z2R5N	2.5 ± 30%	8	12.16	2R5
MC SCH129Z3R5N	3.5 ± 30%	10	12.00	3R5
MC SCH129Z4R7N	4.7 ± 30%	11	10.08	4R7
MC SCH129Z6R8N	6.8 ± 30%	13	8.56	6R8
MC SCH129Z7R5N	7.5 ± 30%	14	8.48	7R5
MC SCH129Z100N	10 ± 30%	18	7.12	100
MC SCH129Z120M	12 ± 20%	19	7.04	120
MC SCH129Z150M	15 ± 20%	26	5.84	150
MC SCH129Z180M	18 ± 20%	28	5.48	180
MC SCH129Z220M	22 ± 20%	29	5.12	220
MC SCH129Z270M	27 ± 20%	42	4.68	270
MC SCH129Z330M	33 ± 20%	53	4.25	330
MC SCH129Z390M	39 ± 20%	58	3.92	390
MC SCH129Z470M	47 ± 20%	63	3.60	470
MC SCH129Z560M	56 ± 20%	68	2.85	560
MC SCH129Z680M	68 ± 20%	93	2.76	680
MC SCH129Z820M	82 ± 20%	99	2.62	820
MC SCH129Z101M	100 ± 20%	126	2.31	101
MC SCH129Z121M	120 ± 20%	154	2.05	121
MC SCH129Z151M	150 ± 20%	174	1.80	151
MC SCH129Z181M	180 ± 20%	191	1.66	181
MC SCH129Z221M	220 ± 20%	246	1.64	221
MC SCH129Z271M	270 ± 20%	314	1.46	271
MC SCH129Z331M	330 ± 20%	386	1.28	331
MC SCH129Z391M	390 ± 20%	428	1.17	391
MC SCH129Z471M	470 ± 20%	471	1.06	471
MC SCH129Z561M	560 ± 20%	650	1.01	561
MC SCH129Z681M	680 ± 20%	730	0.83	681
MC SCH129Z821M	820 ± 20%	824	0.81	821
MC SCH129Z102M	1000 ± 20%	1220	0.70	102
MC SCH129Z122M	1200 ± 20%	1330	0.64	122
MC SCH129Z152M	1500 ± 20%	1990	0.56	152
MC SCH129Z182M	1800 ± 20%	2180	0.48	182
MC SCH129Z222M	2200 ± 20%	2580	0.43	222

3.Operating -40℃ ~ +125℃ (Including self-temperature rise)

SPECIFICATION FOR APPROVAL

4. Reliability and Testing Conditions / Pin Type Power Inductors

Item	Specification	Conditions															
Operating temperature range	-25℃ ~ +120℃ (Including self-temperature rise)																
Storage temperature and humidity range	-40℃ ~ +85℃ , 70% RH Max																
Solderability	More than 90% of the terminal electrode should be covered with solder.	 Unit: Second															
Solder Heat Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	 Unit: Second															
Heat resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in 85±5℃ and 2 hour drying under normal condition.															
Cold resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in -40±5℃ and 2 hour drying under normal condition.															
Thermal shock	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 100 cycles of following condition. <table border="1" data-bbox="901 1265 1364 1400"> <thead> <tr> <th>Step</th><th>Temperature (℃)</th><th>Times (min.)</th></tr> </thead> <tbody> <tr> <td>1</td><td>-40±5℃</td><td>30</td></tr> <tr> <td>2</td><td>Room Temperature</td><td>Within 3</td></tr> <tr> <td>3</td><td>85±5℃</td><td>30</td></tr> <tr> <td>4</td><td>Room Temperature</td><td>Within 3</td></tr> </tbody> </table>	Step	Temperature (℃)	Times (min.)	1	-40±5℃	30	2	Room Temperature	Within 3	3	85±5℃	30	4	Room Temperature	Within 3
Step	Temperature (℃)	Times (min.)															
1	-40±5℃	30															
2	Room Temperature	Within 3															
3	85±5℃	30															
4	Room Temperature	Within 3															
Humidity Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 96 hours in 40±2℃ and 90 to 95% humidity , and 2 hour drying under normal condition.															
Vibration Test	Inductance within ±5% 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	Solder a chip to test substrate, and then laterally apply a load 10N in the arrow direction, Duration :5s 															

Molding Power Inductors

5.Recommended Soldering Conditions

Figure 1. Re-flow Soldering

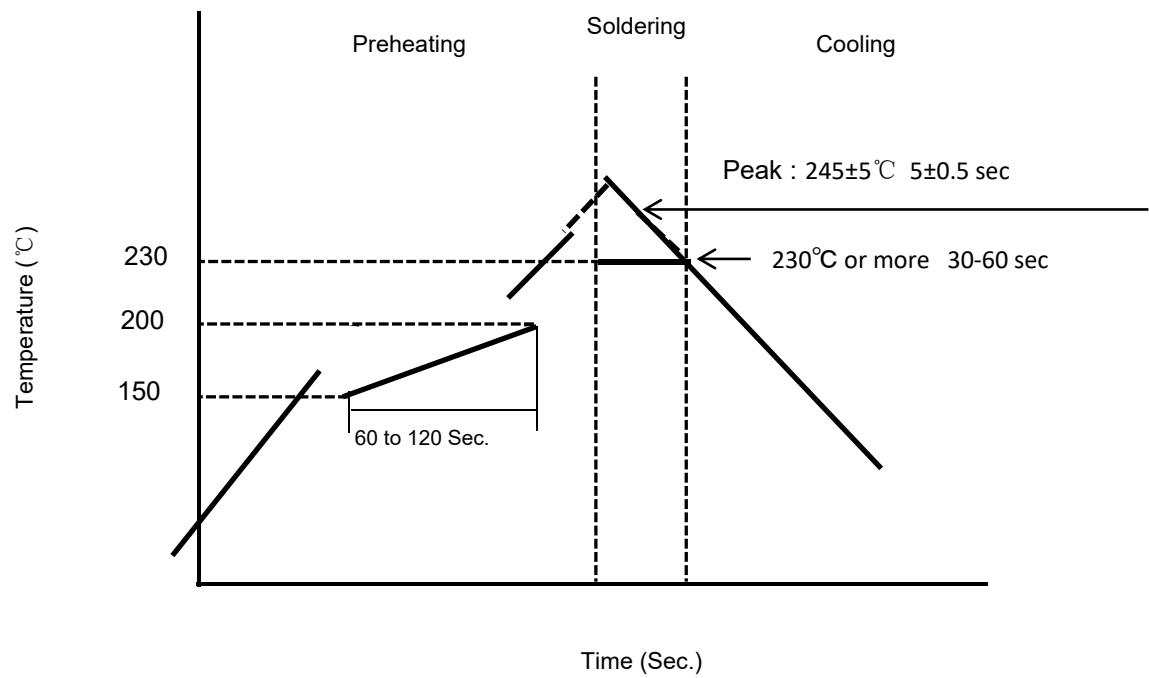
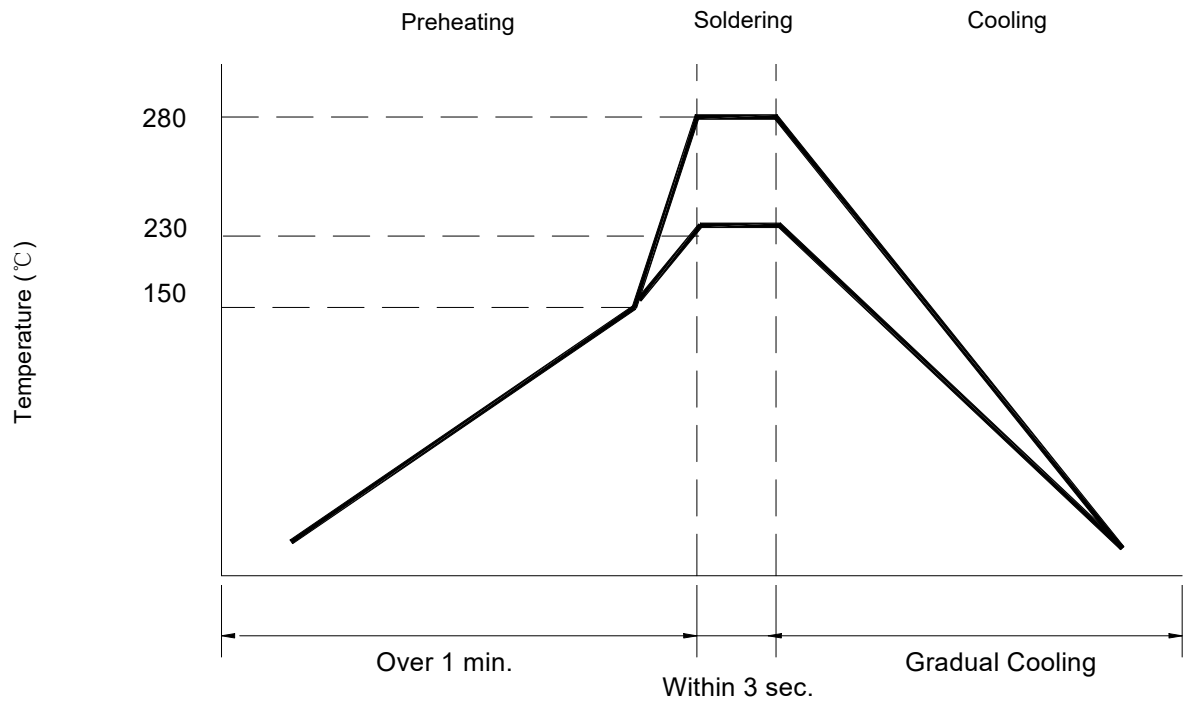
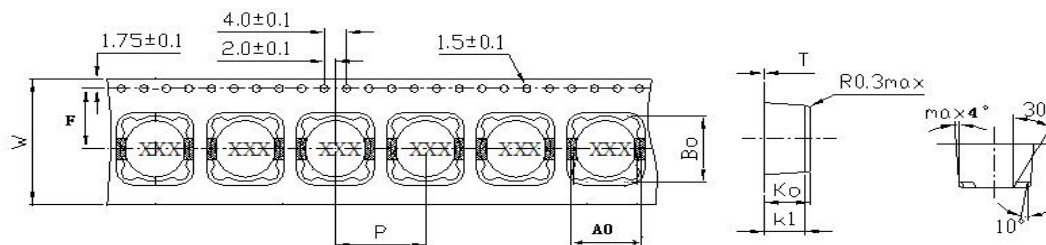


Figure 2. Hand Soldering



Molding Power Inductors

6.Packaging



TYPE	Ao(mm)	Bo(mm)	Ko(mm)	F(mm)	P(mm)	T(mm)	W(mm)
MCSCH73Z Series	7.8	7.8	4	5.5	8	0.4	12
MCSCH74Z Series	7.8	7.8	4.6	7.5	12	0.4	16
MCSCH124Z Series	12.55	12.55	4.2	11.5	16	0.4	24
MCSCH125Z Series	12.55	12.55	6.4	11.5	16	0.4	24
MCSCH127Z Series	12.55	12.55	8.2	11.5	16	0.4	24
MCSCH129Z Series	12.55	12.55	10.2	11.5	16	0.4	24

MCSCH73Z	1000pcs/Reel	MCSCH125Z	500pcs/Reel
MCSCH74Z	1000pcs/Reel	MCSCH127Z	500pcs/Reel
MCSCH124Z	500pcs/Reel	MCSCH129Z	350pcs/Reel

※Storage Conditions

1. Temperature and humidity conditions: -40℃ ~ +85℃ 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.