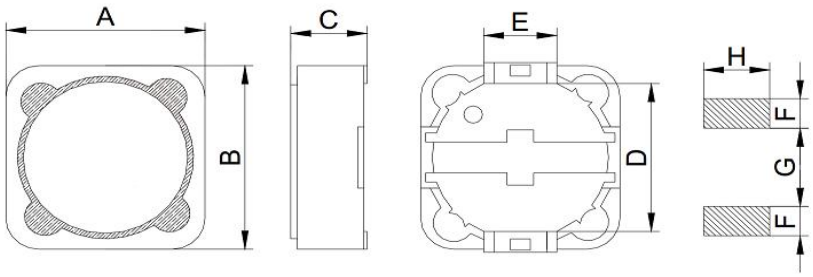
SMD Power Inductors



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

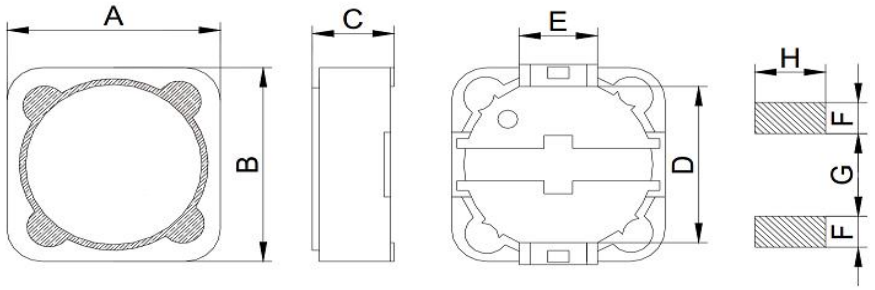
CDRH	73	1R0	N
A	B	C	D

A: Product code
B: Dimensions.
C: Inductance.(for example 1R0=1.0uH)
D:Inductance Tolerance.(for example K=±10% ,M=±20% ,N=±30%)

Aillen®

Shielded Construction-CDRH73 Series

1.Mechanical & Dimensions (UNIT: mm)



A	7.3 ± 0.3
B	7.3 ± 0.3
C	3.5 MAX
D	5.4 ± 0.2
E	1.8
F	1.6 REF
G	4.8 REF
H	2.2 REF

2.Electrical characteristics

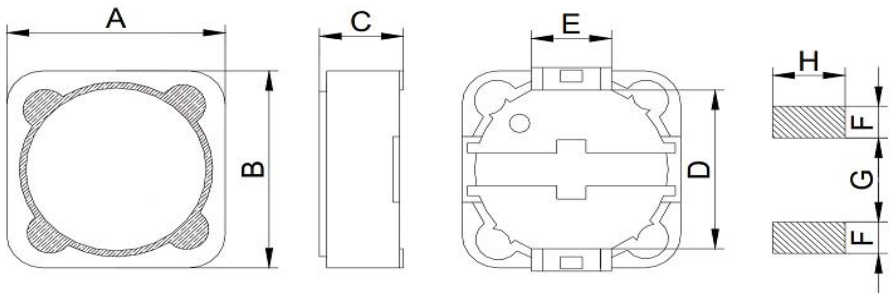
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
CDRH73-1R0N	1.0 ± 30%	16	7.97	1R0
CDRH73-1R5N	1.5 ± 30%	23	5.50	1R5
CDRH73-2R2N	2.2 ± 30%	27	4.50	2R2
CDRH73-3R3N	3.3 ± 30%	31	4.00	3R3
CDRH73-4R7N	4.7 ± 30%	48	3.50	4R7
CDRH73-5R6N	5.6 ± 30%	56	3.00	5R6
CDRH73-6R8N	6.8 ± 30%	62	2.50	6R8
CDRH73-100N	10 ± 30%	72	1.68	100
CDRH73-150M	15 ± 20%	130	1.33	150
CDRH73-180M	18 ± 20%	140	1.20	180
CDRH73-220M	22 ± 20%	190	1.07	220
CDRH73-330M	33 ± 20%	240	0.91	330
CDRH73-390M	39 ± 20%	320	0.77	390
CDRH73-470M	47 ± 20%	360	0.76	470
CDRH73-680M	68 ± 20%	520	0.61	680
CDRH73-101M	100 ± 20%	790	0.50	101
CDRH73-151M	150 ± 20%	1270	0.43	151
CDRH73-181M	180 ± 20%	1450	0.39	181
CDRH73-221M	220 ± 20%	1650	0.35	221
CDRH73-331M	330 ± 20%	2620	0.28	331
CDRH73-391M	390 ± 20%	2940	0.26	391
CDRH73-471M	470 ± 20%	4180	0.24	471
CDRH73-561M	560 ± 20%	4670	0.22	561
CDRH73-681M	680 ± 20%	5730	0.19	681
CDRH73-821M	820 ± 20%	6540	0.18	821
CDRH73-102M	1000 ± 20%	9440	0.16	102

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

Aillen®

Shielded Construction-CDRH74 Series

1.Mechanical & Dimensions (UNIT: mm)



A	7.3 ± 0.3
B	7.3 ± 0.3
C	4.5 MAX
D	5.4 ± 0.2
E	1.8
F	1.6 REF
G	4.8 REF
H	2.2 REF

2.Electrical characteristics

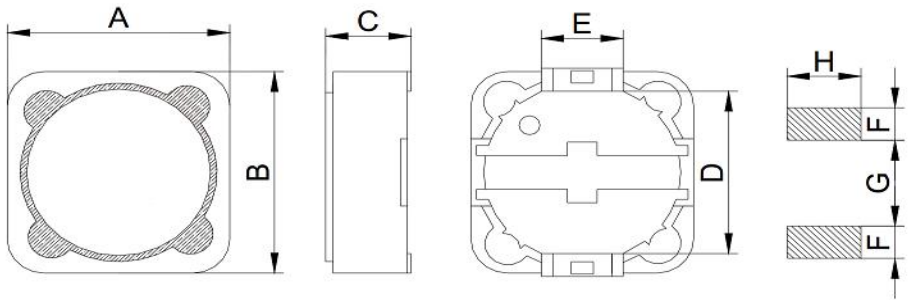
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
CDRH74-1R0N	1.0 ± 30%	15	9.00	1R0
CDRH74-1R5N	1.5 ± 30%	18	7.00	1R5
CDRH74-2R2N	2.2 ± 30%	28	6.00	2R2
CDRH74-3R3N	3.3 ± 30%	32	4.80	3R3
CDRH74-3R9N	3.9 ± 30%	35	4.40	3R9
CDRH74-4R7N	4.7 ± 30%	38	4.00	4R7
CDRH74-5R6N	5.6 ± 30%	40	3.50	5R6
CDRH74-6R8N	6.8 ± 30%	45	3.00	6R8
CDRH74-100N	10 ± 30%	49	1.84	100
CDRH74-120M	12 ± 20%	58	1.71	120
CDRH74-150M	15 ± 20%	81	1.47	150
CDRH74-180M	18 ± 20%	91	1.31	180
CDRH74-220M	22 ± 20%	110	1.23	220
CDRH74-270M	27 ± 20%	150	1.12	270
CDRH74-330M	33 ± 20%	170	0.96	330
CDRH74-390M	39 ± 20%	230	0.91	390
CDRH74-470M	47 ± 20%	260	0.88	470
CDRH74-560M	56 ± 20%	350	0.80	560
CDRH74-680M	68 ± 20%	380	0.70	680
CDRH74-820M	82 ± 20%	430	0.61	820
CDRH74-101M	100 ± 20%	610	0.60	101
CDRH74-121M	120 ± 20%	660	0.52	121
CDRH74-151M	150 ± 20%	880	0.46	151
CDRH74-181M	180 ± 20%	980	0.42	181
CDRH74-221M	220 ± 20%	1170	0.36	221
CDRH74-271M	270 ± 20%	1640	0.34	271
CDRH74-331M	330 ± 20%	1860	0.32	331
CDRH74-391M	390 ± 20%	2850	0.29	391
CDRH74-471M	470 ± 20%	3010	0.26	471
CDRH74-561M	560 ± 20%	3620	0.23	561
CDRH74-681M	680 ± 20%	4630	0.22	681
CDRH74-821M	820 ± 20%	5200	0.20	821
CDRH74-102M	1000 ± 20%	6000	0.18	102

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

Aillen®

Shielded Construction-CDRH124 Series

1.Mechanical & Dimensions (UNIT: mm)



A	12.0 ± 0.5
B	12.0 ± 0.5
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

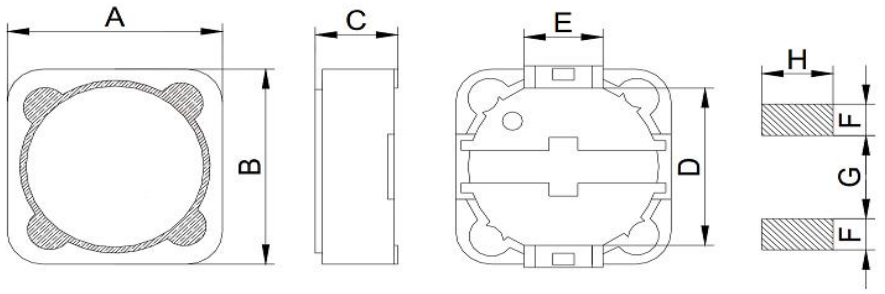
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
CDRH124-3R9M	3.9 ± 20%	15	6.50	3R9
CDRH124-4R7M	4.7 ± 20%	18	5.70	4R7
CDRH124-6R8M	6.8 ± 20%	23	4.90	6R8
CDRH124-8R2M	8.2 ± 20%	26	4.60	8R2
CDRH124-100N	10 ± 30%	28	4.50	100
CDRH124-120M	12 ± 20%	38	4.00	120
CDRH124-150M	15 ± 20%	50	3.20	150
CDRH124-180M	18 ± 20%	57	3.10	180
CDRH124-220M	22 ± 20%	66	2.90	220
CDRH124-270M	27 ± 20%	80	2.80	270
CDRH124-330M	33 ± 20%	97	2.70	330
CDRH124-390M	39 ± 20%	132	2.10	390
CDRH124-470M	47 ± 20%	150	1.90	470
CDRH124-560M	56 ± 20%	190	1.80	560
CDRH124-680M	68 ± 20%	220	1.50	680
CDRH124-820M	82 ± 20%	260	1.30	820
CDRH124-101M	100 ± 20%	308	1.20	101
CDRH124-121M	120 ± 20%	380	1.10	121
CDRH124-151M	150 ± 20%	530	0.95	151
CDRH124-181M	180 ± 20%	620	0.85	181
CDRH124-221M	220 ± 20%	700	0.80	221
CDRH124-271M	270 ± 20%	870	0.60	271
CDRH124-331M	330 ± 20%	990	0.50	331

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

Aillen®

Shielded Construction-CDRH125 Series

1.Mechanical & Dimensions (UNIT: mm)



A	12.0 ± 0.5
B	12.0 ± 0.5
C	6.0 MAX
D	7.6 ± 0.2
E	5.0
F	2.8 REF
G	7.0 REF
H	5.4 REF

2.Electrical characteristics

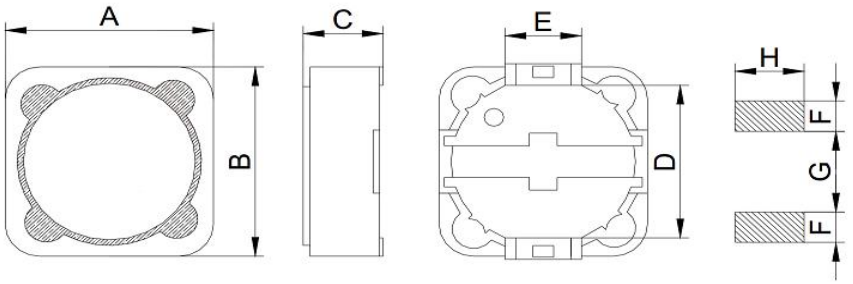
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
CDRH125-1R3N	1.3 ± 30%	12	8.00	1R3
CDRH125-2R1N	2.1 ± 30%	14	7.00	2R1
CDRH125-3R1N	3.1 ± 30%	17	6.00	3R1
CDRH125-4R4N	4.4 ± 30%	20	5.00	4R4
CDRH125-5R8N	5.8 ± 30%	21	4.40	5R8
CDRH125-7R5N	7.5 ± 30%	24	4.20	7R5
CDRH125-100N	10 ± 30%	25	4.00	100
CDRH125-120M	12 ± 20%	27	3.50	120
CDRH125-150M	15 ± 20%	30	3.30	150
CDRH125-180M	18 ± 20%	34	3.00	180
CDRH125-220M	22 ± 20%	36	2.80	220
CDRH125-270M	27 ± 20%	51	2.30	270
CDRH125-330M	33 ± 20%	57	2.10	330
CDRH125-390M	39 ± 20%	68	2.00	390
CDRH125-470M	47 ± 20%	75	1.80	470
CDRH125-560M	56 ± 20%	110	1.70	560
CDRH125-680M	68 ± 20%	120	1.50	680
CDRH125-820M	82 ± 20%	140	1.40	820
CDRH125-101M	100 ± 20%	160	1.30	101
CDRH125-121M	120 ± 20%	170	1.10	121
CDRH125-151M	150 ± 20%	230	1.00	151
CDRH125-181M	180 ± 20%	290	0.90	181
CDRH125-221M	220 ± 20%	400	0.80	221
CDRH125-271M	270 ± 20%	460	0.75	271
CDRH125-331M	330 ± 20%	510	0.68	331
CDRH125-391M	390 ± 20%	690	0.65	391
CDRH125-471M	470 ± 20%	770	0.58	471
CDRH125-561M	560 ± 20%	860	0.54	561
CDRH125-681M	680 ± 20%	1200	0.48	681
CDRH125-821M	820 ± 20%	1340	0.43	821
CDRH125-102M	1000 ± 20%	1530	0.40	102

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

Aillen®

Shielded Construction-CDRH127 Series

1.Mechanical & Dimensions (UNIT: mm)



A	12.0 ± 0.5
B	12.0 ± 0.5
C	8.0 MAX
D	7.6 ± 0.2
E	5.0
F	2.8 REF
G	7.0 REF
H	5.4 REF

2.Electrical characteristics

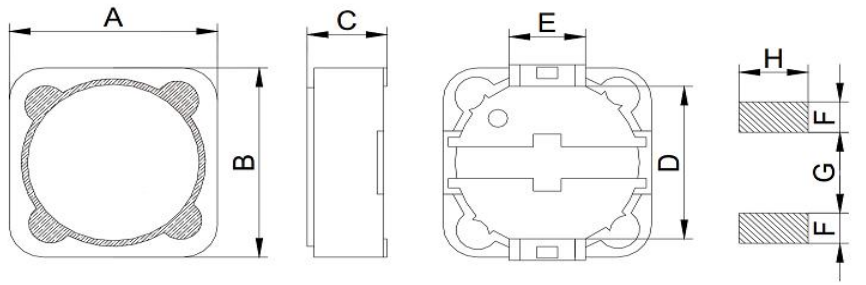
Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
CDRH127-1R2N	1.2 ± 30%	7	9.80	1R2
CDRH127-2R4N	2.4 ± 30%	12	8.00	2R4
CDRH127-3R5N	3.5 ± 30%	14	7.50	3R5
CDRH127-4R7N	4.7 ± 30%	16	6.80	4R7
CDRH127-6R1N	6.1 ± 30%	18	6.60	6R1
CDRH127-7R6N	7.6 ± 30%	20	5.90	7R6
CDRH127-100N	10 ± 30%	22	5.40	100
CDRH127-120M	12 ± 20%	24	4.90	120
CDRH127-150M	15 ± 20%	30	4.50	150
CDRH127-180M	18 ± 20%	39	3.90	180
CDRH127-220M	22 ± 20%	43	3.60	220
CDRH127-270M	27 ± 20%	46	3.40	270
CDRH127-330M	33 ± 20%	65	3.00	330
CDRH127-390M	39 ± 20%	73	2.75	390
CDRH127-470M	47± 20%	100	2.50	470
CDRH127-560M	56 ± 20%	110	2.35	560
CDRH127-680M	68 ± 20%	140	2.10	680
CDRH127-820M	82 ± 20%	160	1.95	820
CDRH127-101M	100 ± 20%	220	1.70	101
CDRH127-121M	120 ± 20%	250	1.60	121
CDRH127-151M	150 ± 20%	280	1.42	151
CDRH127-181M	180 ± 20%	350	1.30	181
CDRH127-221M	220 ± 20%	390	1.16	221
CDRH127-271M	270 ± 20%	560	1.06	271
CDRH127-331M	330 ± 20%	640	0.95	331
CDRH127-391M	390 ± 20%	700	0.88	391
CDRH127-471M	470± 20%	980	0.79	471
CDRH127-561M	560 ± 20%	1070	0.73	561
CDRH127-681M	680 ± 20%	1460	0.67	681
CDRH127-821M	820 ± 20%	1640	0.60	821
CDRH127-102M	1000 ± 20%	1820	0.55	102

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

Aillen®

Shielded Construction-CDRH129 Series

1.Mechanical & Dimensions (UNIT: mm)



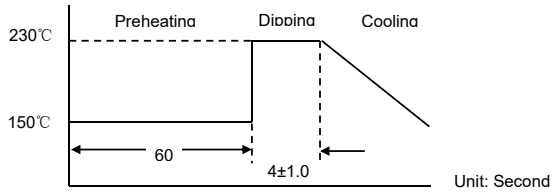
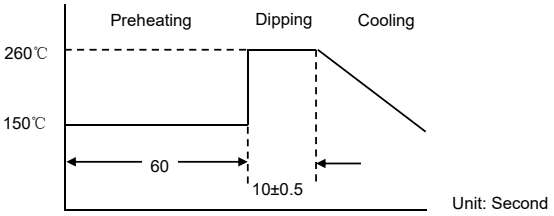
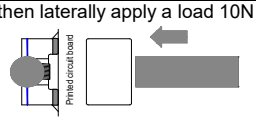
A	12.0 ± 0.5
B	12.0 ± 0.5
C	10.0 MAX
D	7.6 ± 0.2
E	5.0
F	2.8 REF
G	7.0 REF
H	5.4 REF

2.Electrical characteristics

Part Number	Inductance L0(uH) 100KHZ/1.0V	DCR (mΩ) MAX	I-sat (Amps) ≥75%L0	MARKING
CDRH129-1R0N	1.0 ± 30%	6	19.90	1R0
CDRH129-1R8N	1.8 ± 30%	7	13.40	1R8
CDRH129-2R5N	2.5 ± 30%	8	12.16	2R5
CDRH129-3R5N	3.5 ± 30%	10	12.00	3R5
CDRH129-4R7N	4.7 ± 30%	11	10.08	4R7
CDRH129-6R8N	6.8 ± 30%	13	8.56	6R8
CDRH129-7R5N	7.5 ± 30%	14	8.48	7R5
CDRH129-100N	10 ± 30%	18	7.12	100
CDRH129-120M	12 ± 20%	19	7.04	120
CDRH129-150M	15 ± 20%	26	5.84	150
CDRH129-180M	18 ± 20%	28	5.48	180
CDRH129-220M	22 ± 20%	29	5.12	220
CDRH129-270M	27 ± 20%	42	4.68	270
CDRH129-330M	33 ± 20%	53	4.25	330
CDRH129-390M	39 ± 20%	58	3.92	390
CDRH129-470M	47 ± 20%	63	3.60	470
CDRH129-560M	56 ± 20%	68	2.85	560
CDRH129-680M	68 ± 20%	93	2.76	680
CDRH129-820M	82 ± 20%	99	2.62	820
CDRH129-101M	100 ± 20%	126	2.31	101
CDRH129-121M	120 ± 20%	154	2.05	121
CDRH129-151M	150 ± 20%	174	1.80	151
CDRH129-181M	180 ± 20%	191	1.66	181
CDRH129-221M	220 ± 20%	246	1.64	221
CDRH129-271M	270 ± 20%	314	1.46	271
CDRH129-331M	330 ± 20%	386	1.28	331
CDRH129-391M	390 ± 20%	428	1.17	391
CDRH129-471M	470 ± 20%	471	1.06	471
CDRH129-561M	560± 20%	650	1.01	561
CDRH129-681M	680 ± 20%	730	0.83	681
CDRH129-821M	820 ± 20%	824	0.81	821
CDRH129-102M	1000 ± 20%	1220	0.70	102
CDRH129-122M	1200 ± 20%	1330	0.64	122
CDRH129-152M	1500 ± 20%	1990	0.56	152
CDRH129-182M	1800 ± 20%	2180	0.48	182
CDRH129-222M	2200 ± 20%	2580	0.43	222

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

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.	
Solder Heat Resistance	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	
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. 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.	After96 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 

5.Recommended Soldering Conditions

Figure 1. Re-flow Soldering

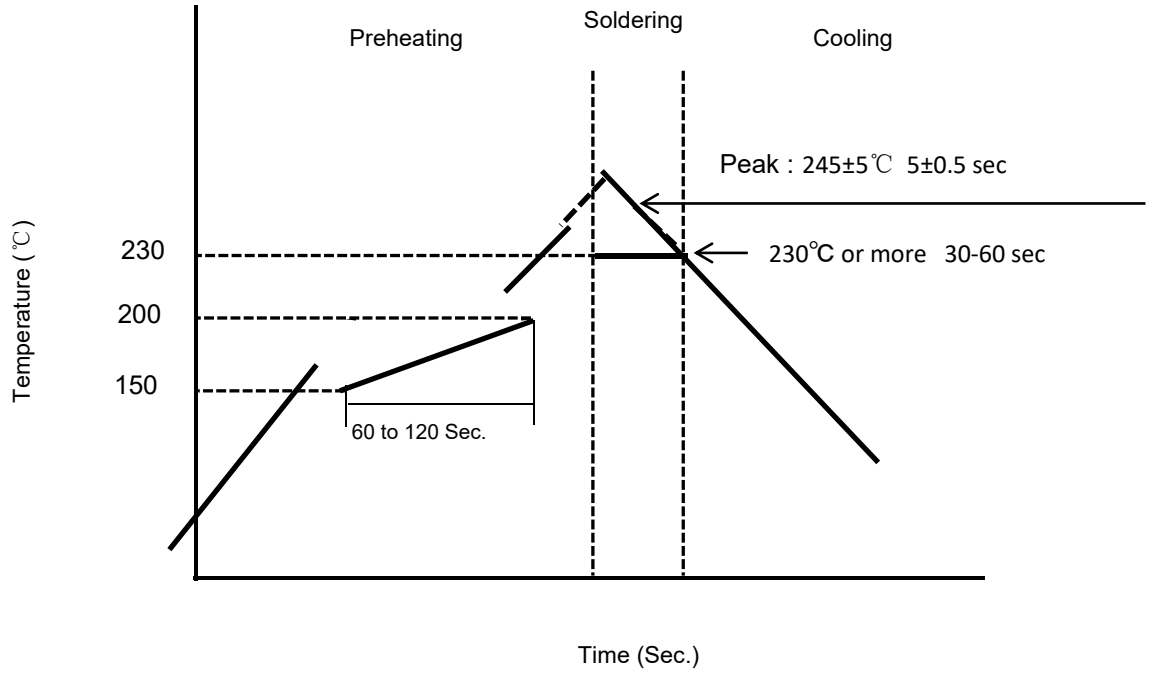
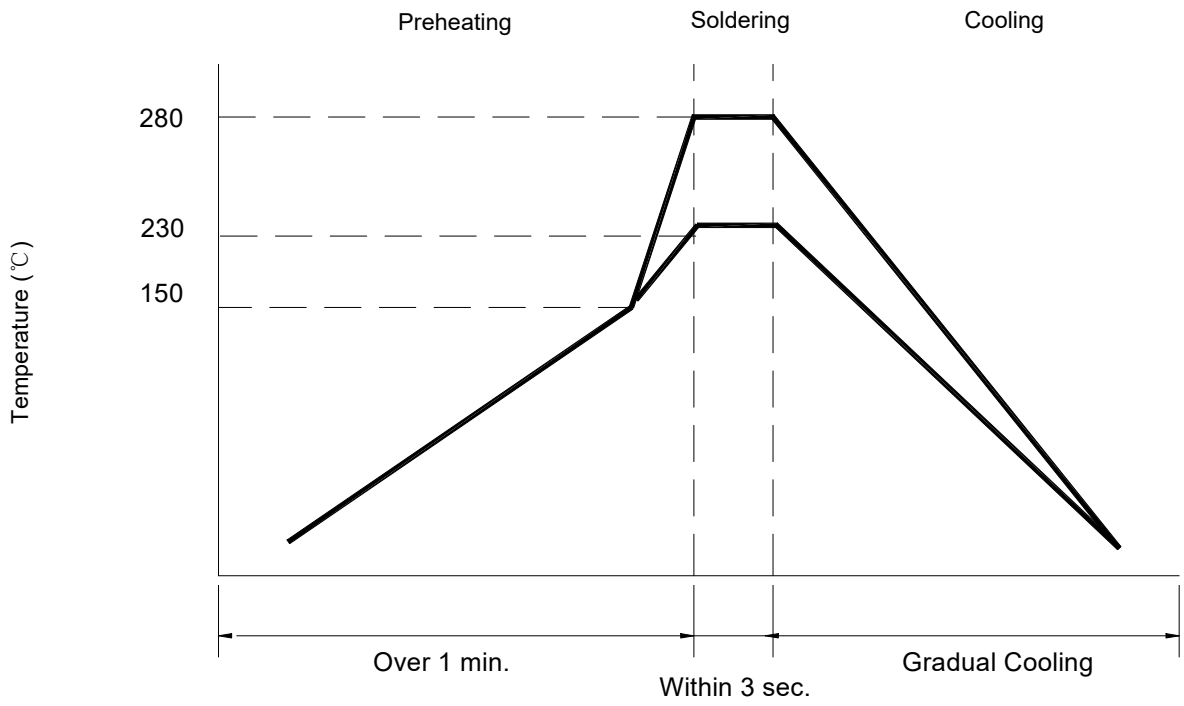
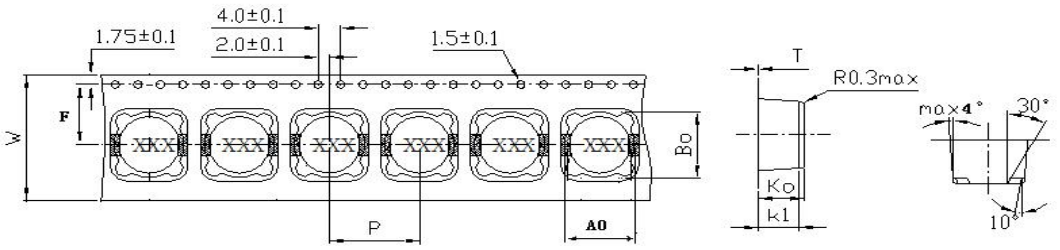


Figure 2. Hand Soldering



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.