



SPECIFICATION FOR APPROVAL

CUSTOMER : STD

CUSTOMER PART NO :

PRODUCTS : SMD POWER INDUCTOR

PART NO: MCSC Series

DATE: 2018.08.17

SALES: 产品部

E-MAIL: Eily@szmorechance.com

APPROVAL SIGNATURE 客户承认签章	

APPROVAL	CHECK BY	DRAWN BY
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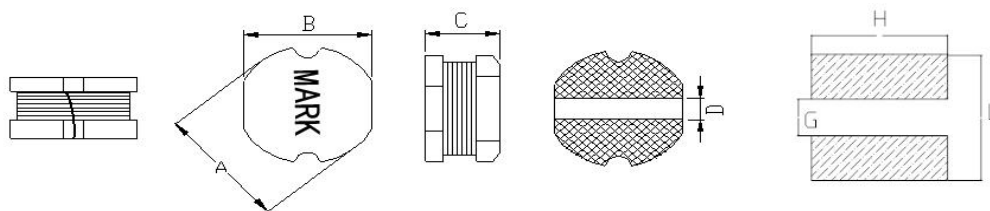
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SMD Power Inductors



Feature

1. *Excellent soldeability and heat resistance.*
2. *Excellent terminal strength.*
3. *Packed in embossed carrier tape and can be used by automatic mounting machine.*
4. *Available in various sizes.*
5. *Easy to customized.*

Application

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

Product Identification

MC SC 32Z 1R0 M
A B C D E

A Company code

B Series Name.

C Dimension.

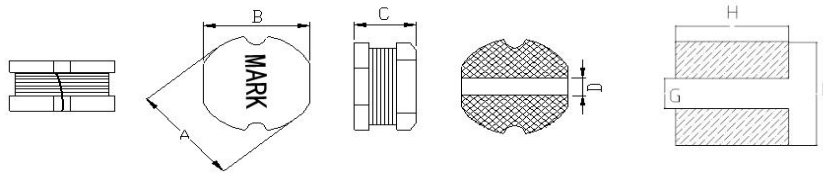
D Inductance. (for example 1R0= 1.0uH)

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

Shielded Construction--MCSC32Z Series

1.Mechanical & Dimensions

(UNIT: mm)



A	3.5 ± 0.3
B	3.0 ± 0.3
C	2.1 ± 0.3
D	1.2 ± 0.3
L	4
H	3.4
G	0.9

2.Electrical characteristics

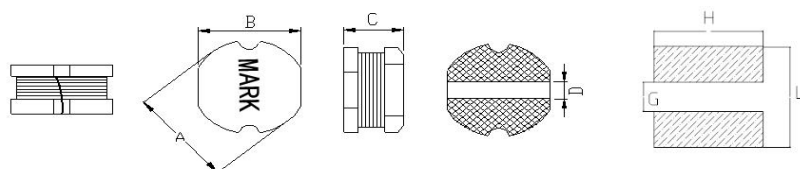
Part Number	Inductance L0(uH) 100KHZ/0.25V	DCR (mΩ) MAX	I-sat (Amps) ≥90%L0	MARKING
MCSC32Z1R0M	1.0 ± 20%	40	3.34	1R0
MCSC32Z1R2M	1.2 ± 20%	50	2.60	1R2
MCSC32Z1R5M	1.5 ± 20%	60	2.40	1R5
MCSC32Z1R8M	1.8 ± 20%	70	2.35	1R8
MCSC32Z2R2M	2.2 ± 20%	75	2.35	2R2
MCSC32Z2R7M	2.7 ± 20%	100	1.90	2R7
MCSC32Z3R3M	3.3 ± 20%	110	1.80	3R3
MCSC32Z4R7M	4.7 ± 20%	135	1.30	4R7
MCSC32Z5R6M	5.6 ± 20%	200	1.20	5R6
MCSC32Z6R8M	6.8 ± 20%	210	1.15	6R8
MCSC32Z100K	10 ± 10%	320	1.10	100
MCSC32Z120K	12 ± 10%	360	0.85	120
MCSC32Z150K	15 ± 10%	460	0.80	150
MCSC32Z220K	22 ± 10%	650	0.65	220
MCSC32Z270K	27 ± 10%	780	0.50	270
MCSC32Z330K	33 ± 10%	800	0.50	330
MCSC32Z430K	43 ± 10%	1590	0.45	430
MCSC32Z470K	47 ± 10%	1600	0.45	470
MCSC32Z560K	56 ± 10%	1650	0.30	560
MCSC32Z680K	68 ± 10%	1800	0.29	680
MCSC32Z101K	100 ± 10%	2850	0.25	101
MCSC32Z151K	150 ± 10%	4200	0.16	151
MCSC32Z221K	220 ± 10%	6000	0.20	221
MCSC32Z301K	300 ± 10%	7000	0.10	301
MCSC32Z331K	330 ± 10%	9500	0.09	331
MCSC32Z471M	470 ± 10%	11480	0.15	471
MCSC32Z681K	680 ± 10%	20500	0.04	681

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

Shielded Construction--MCSC43Z Series

1.Mechanical & Dimensions

(UNIT: mm)



A	4.5 ± 0.3
B	4.0 ± 0.3
C	3.2 ± 0.3
D	1.6 REF
L	5.0
H	4.5
G	1.3

2.Electrical characteristics

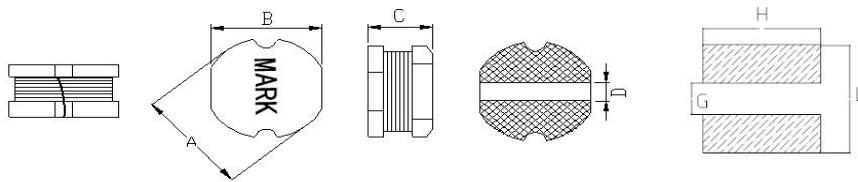
Part Number	Inductance L0(uH) 100KHZ/0.25V	DCR (mΩ) MAX	I-sat (Amps) ≥90%L0	MARKING
MCSC43Z1R0M	1.0 ± 20%	30	3.80	1R0
MCSC43Z1R2M	1.2 ± 20%	36	3.50	1R2
MCSC43Z1R4M	1.4 ± 20%	38	3.30	1R4
MCSC43Z1R5M	1.5 ± 20%	38	3.00	1R5
MCSC43Z1R8M	1.8 ± 20%	42	2.91	1R8
MCSC43Z2R2M	2.2 ± 20%	48	3.00	2R2
MCSC43Z2R7M	2.7 ± 20%	52	2.50	2R7
MCSC43Z3R0M	3.0 ± 20%	55	2.50	3R0
MCSC43Z3R3M	3.3 ± 20%	55	2.60	3R3
MCSC43Z3R9M	3.9 ± 20%	76	1.98	3R9
MCSC43Z4R7M	4.7 ± 20%	94	1.90	4R7
MCSC43Z5R6M	5.6 ± 20%	100	1.80	5R6
MCSC43Z6R8M	6.8 ± 20%	120	1.60	6R8
MCSC43Z8R2M	8.2 ± 20%	132	1.26	8R2
MCSC43Z100K	10 ± 10%	180	1.15	100
MCSC43Z120K	12 ± 10%	210	1.05	120
MCSC43Z150K	15 ± 10%	240	0.92	150
MCSC43Z180K	18 ± 10%	338	0.84	180
MCSC43Z220K	22 ± 10%	378	0.76	220
MCSC43Z270K	27 ± 10%	410	0.71	270
MCSC43Z330K	33 ± 10%	510	0.70	330
MCSC43Z390K	39 ± 10%	560	0.66	390
MCSC43Z470K	47 ± 10%	800	0.65	470
MCSC43Z560K	56 ± 10%	960	0.50	560
MCSC43Z680K	68 ± 10%	1117	0.46	680
MCSC43Z820K	82 ± 10%	1345	0.45	820
MCSC43Z101K	100 ± 10%	1520	0.44	101
MCSC43Z151K	150 ± 10%	2000	0.42	151
MCSC43Z221K	220 ± 10%	3400	0.36	221
MCSC43Z331K	330 ± 10%	5300	0.28	331
MCSC43Z471K	470 ± 10%	6800	0.20	471
MCSC43Z681K	680 ± 10%	10000	0.18	681
MCSC43Z102K	1000 ± 10%	15600	0.14	102

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

Shielded Construction--MCSC53Z Series

1.Mechanical & Dimensions

(UNIT: mm)



A	5.8 ± 0.3
B	5.2 ± 0.3
C	3.0 ± 0.3
D	2.0 REF
L	6.5
H	5.5
G	1.7

2.Electrical characteristics

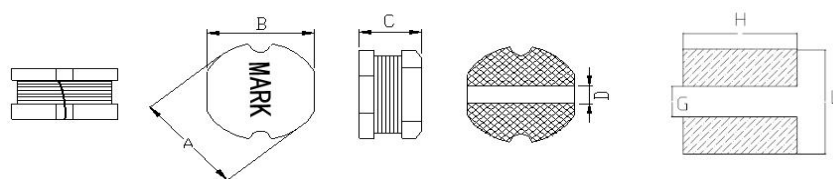
Part Number	Inductance L0(uH) 100KHZ/0.25V	DCR (mΩ) MAX	I-sat (Amps) ≥90%L0	MARKING
MCSC53Z1R0M	1.0 ± 20%	30	4.50	1R0
MCSC53Z1R2M	1.2 ± 20%	25	4.60	1R2
MCSC53Z1R5M	1.5 ± 20%	30	4.10	1R5
MCSC53Z2R2M	2.2 ± 20%	35	3.50	2R2
MCSC53Z2R7M	2.7 ± 20%	40	3.20	2R7
MCSC53Z3R3M	3.3 ± 20%	50	3.00	3R3
MCSC53Z3R9M	3.9 ± 20%	60	2.60	3R9
MCSC53Z4R7M	4.7 ± 20%	70	2.50	4R7
MCSC53Z5R6M	5.6 ± 20%	80	2.40	5R6
MCSC53Z6R8M	6.8 ± 20%	90	2.20	6R8
MCSC53Z8R2M	8.2 ± 20%	100	2.00	8R2
MCSC53Z100K	10 ± 10%	120	1.80	100
MCSC53Z150K	15 ± 10%	150	1.70	150
MCSC53Z180K	18 ± 10%	232	1.60	180
MCSC53Z220K	22 ± 10%	220	1.50	220
MCSC53Z270K	27 ± 10%	260	1.20	270
MCSC53Z330K	33 ± 10%	330	1.10	330
MCSC53Z390K	39 ± 10%	400	1.00	390
MCSC53Z470K	47 ± 10%	430	0.90	470
MCSC53Z680K	68 ± 10%	600	0.75	680
MCSC53Z820K	82 ± 10%	820	0.65	820
MCSC53Z101K	100 ± 10%	900	0.60	101
MCSC53Z121K	120 ± 10%	1000	0.58	121
MCSC53Z151K	150 ± 10%	1560	0.53	151
MCSC53Z221K	220 ± 10%	2000	0.38	221
MCSC53Z331K	330 ± 10%	4000	0.35	331
MCSC53Z391K	390 ± 10%	4100	0.32	391
MCSC53Z451K	450 ± 10%	4200	0.30	451
MCSC53Z471K	470 ± 10%	4300	0.20	471
MCSC53Z681K	680 ± 10%	7000	0.18	681
MCSC53Z102K	1000 ± 10%	8000	0.13	102

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

Shielded Construction--MCSC54Z Series

1.Mechanical & Dimensions

(UNIT: mm)



A	5.8 ± 0.3
B	5.2 ± 0.3
C	4.5 ± 0.3
D	2.0 REF
L	6.5
H	5.5
G	1.7

2.Electrical characteristics

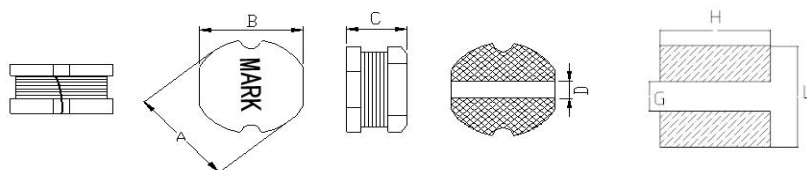
Part Number	Inductance L0(uH)	DCR (mΩ)	I-sat (Amps)	MARKING
	100KHZ/0.25V	MAX	≥90%L0	
MCSC54Z1R0M	1.0 ± 20%	15	5.90	1R0
MCSC54Z1R2M	1.2 ± 20%	16	5.30	1R2
MCSC54Z1R5M	1.5 ± 20%	20	5.30	1R5
MCSC54Z2R2M	2.2 ± 20%	26	4.60	2R2
MCSC54Z2R7M	2.7 ± 20%	28	4.40	2R7
MCSC54Z3R3M	3.3 ± 20%	34	4.30	3R3
MCSC54Z3R9M	3.9 ± 20%	37	4.10	3R9
MCSC54Z4R7M	4.7 ± 20%	40	4.00	4R7
MCSC54Z6R8M	6.8 ± 20%	60	3.00	6R8
MCSC54Z100K	10 ± 10%	75	2.00	100
MCSC54Z120K	12 ± 10%	100	1.60	120
MCSC54Z150K	15 ± 10%	120	1.55	150
MCSC54Z180K	18 ± 10%	150	1.55	180
MCSC54Z220K	22 ± 10%	170	1.50	220
MCSC54Z330K	33 ± 10%	230	0.88	330
MCSC54Z470K	47 ± 10%	350	0.85	470
MCSC54Z680K	68 ± 10%	460	0.61	680
MCSC54Z820K	82 ± 10%	600	0.58	820
MCSC54Z101K	100 ± 10%	700	0.55	101
MCSC54Z121K	120 ± 10%	770	0.55	121
MCSC54Z151K	150 ± 10%	1200	0.52	151
MCSC54Z221K	220 ± 10%	1650	0.50	221
MCSC54Z331K	330 ± 10%	1800	0.28	331
MCSC54Z471K	470 ± 10%	3000	0.25	471
MCSC54Z681K	680 ± 10%	5100	0.25	681
MCSC54Z821K	820 ± 10%	5300	0.22	821
MCSC54Z102K	1000 ± 10%	7000	0.10	102

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

Shielded Construction--MCSC75Z Series

1.Mechanical & Dimensions

(UNIT: mm)



A	7.8 ± 0.3
B	7.0 ± 0.3
C	5.0 ± 0.3
D	2.5 REF
L	9.2
H	7.5
G	2.2

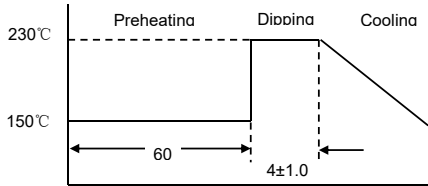
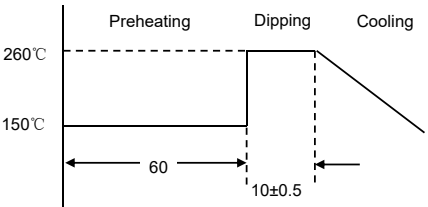
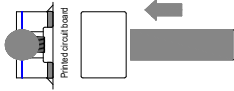
2.Electrical characteristics

Part Number	Inductance L0(uH) 100KHZ/0.25V	DCR (mΩ) MAX	I-sat (Amps) ≥90%L0	MARKING
MCSC75Z1R0M	1.0 ± 20%	10	8.50	1R0
MCSC75Z1R5M	1.5 ± 20%	18	5.20	1R2
MCSC75Z2R2M	2.2 ± 20%	20	5.00	2R2
MCSC75Z3R3M	3.3 ± 20%	30	3.90	3R3
MCSC75Z4R7M	4.7 ± 20%	35	3.80	4R7
MCSC75Z5R6M	5.6 ± 20%	40	3.20	5R6
MCSC75Z6R8M	6.8 ± 20%	45	3.10	6R8
MCSC75Z8R2M	8.2 ± 20%	50	2.80	8R2
MCSC75Z100K	10 ± 10%	50	2.60	100
MCSC75Z120K	12 ± 10%	70	2.10	120
MCSC75Z150K	15 ± 10%	80	2.00	150
MCSC75Z180K	18 ± 10%	100	1.60	180
MCSC75Z220K	22 ± 10%	110	1.50	220
MCSC75Z270K	27 ± 10%	120	1.30	270
MCSC75Z330K	33 ± 10%	130	1.20	330
MCSC75Z390K	39 ± 10%	160	1.10	390
MCSC75Z470K	47 ± 10%	180	1.10	470
MCSC75Z560K	56 ± 10%	240	0.94	560
MCSC75Z680K	68 ± 10%	280	0.85	680
MCSC75Z820K	82 ± 10%	360	0.78	820
MCSC75Z101K	100 ± 10%	370	0.72	101
MCSC75Z121K	120 ± 10%	470	0.66	121
MCSC75Z151K	150 ± 10%	640	0.58	151
MCSC75Z181K	180 ± 10%	710	0.51	181
MCSC75Z221K	220 ± 10%	780	0.49	221
MCSC75Z301K	300 ± 10%	1100	0.40	301
MCSC75Z331K	330 ± 10%	1260	0.40	331
MCSC75Z471K	470 ± 10%	1890	0.35	471
MCSC75Z561K	560 ± 10%	2000	0.33	561
MCSC75Z681K	680 ± 10%	2560	0.31	681
MCSC75Z821K	820 ± 10%	3250	0.30	821
MCSC75Z102K	1000 ± 10%	3300	0.30	102
MCSC75Z222K	2200 ± 10%	6800	0.18	222
MCSC75Z103K	10000 ± 10%	441000	0.09	103

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="903 1234 1362 1359"> <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 1 hour, 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

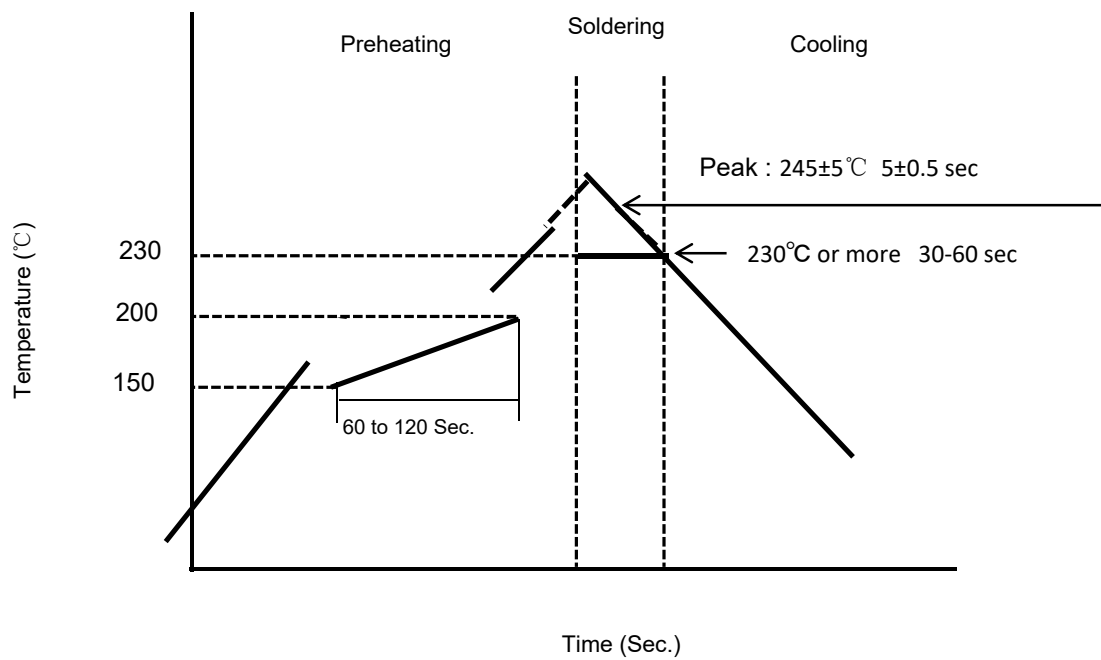
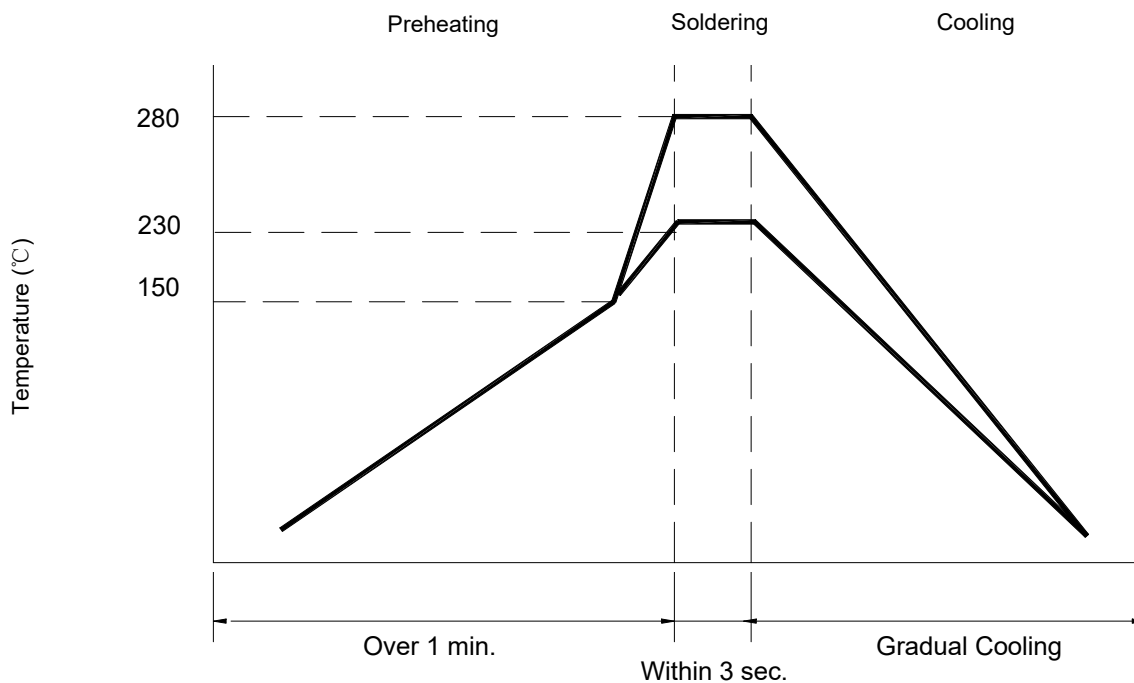
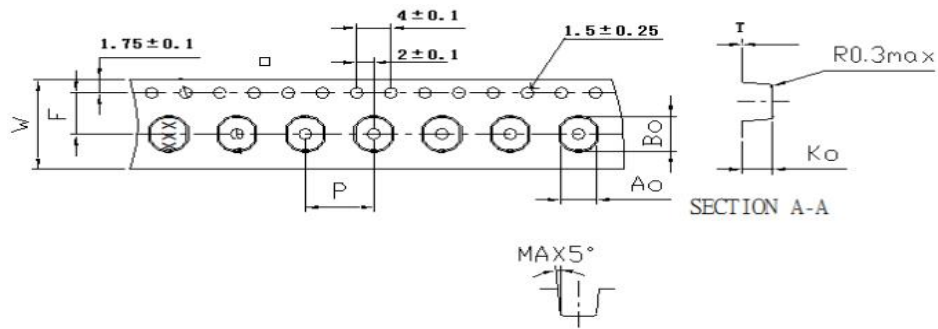


Figure 2. Hand Soldering



Molding Power Inductors

6.Packaging



TYPE	Ao(mm)	Bo(mm)	Ko(mm)	F(mm)	P(mm)	T(mm)	W(mm)
MCSC32Z Series	3.3	3.8	2.4	5.5	8	0.35	12.0
MCSC43Z Series	4.3	4.8	3.6	5.5	8.0	0.40	12.0
MCSC53Z Series	5.6	6.2	3.6	5.5	8	0.40	12.0
MCSC54Z Series	5.6	6.2	4.9	5.5	8.0	0.40	12.0
MCSC75Z Series	7.4	8.2	5.5	7.5	12.0	0.35	16.0

MCSC32Z	3000pcs/Reel	MCSC54Z	1500pcs/Reel
MCSC43Z	2000pcs/Reel	MCSC75Z	1000pcs/Reel
MCSC53Z	2000pcs/Reel		

※Storage Conditions

1. Temperature and humidity conditions: $-40^\circ\text{C} \sim +85^\circ\text{C}$ and 70% RH.
2. Recommended products should be used within 6 months from 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.