

产品承认书

Specification For Approved

版本: REV.A00

客户名称/Customer name:

N/A

客户品名/Customer name:

N/A

客户型号/Customer Model number:

N/A

客户料号/Customer material number:

N/A

巨维品名/JW name:

Molding power inductors

巨维型号/JW Model number:

MHS201610A Series

巨维料号/JW Material number:

N/A

巨维签署/JW Signed			客户承认/Customer Approval		
制定 Prepared By	审核 Checked By	批准 Approved By	确认 Confirm By	审核 Checked By	承认 Approved By
唐秀玲	王瑞琳	欧奇林			
2024.8.22	2024.8.22	2024.8.22			

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JS-RD-SPEC-001/A0

深圳市巨维科技有限公司

Shenzhen Ju Wei Technology Co., Ltd

客户名称 Customer	N/A	品名 Name	Molding power inductors	版本 Ver.	A00
客户型号 Model No.	N/A	料号 Material No.	N/A	日期 Date	2024.8.22
客户料号 Customer No.	N/A	型号 Model No.	MHS201610A Series	发行号 Release No.	JS-S-24082202

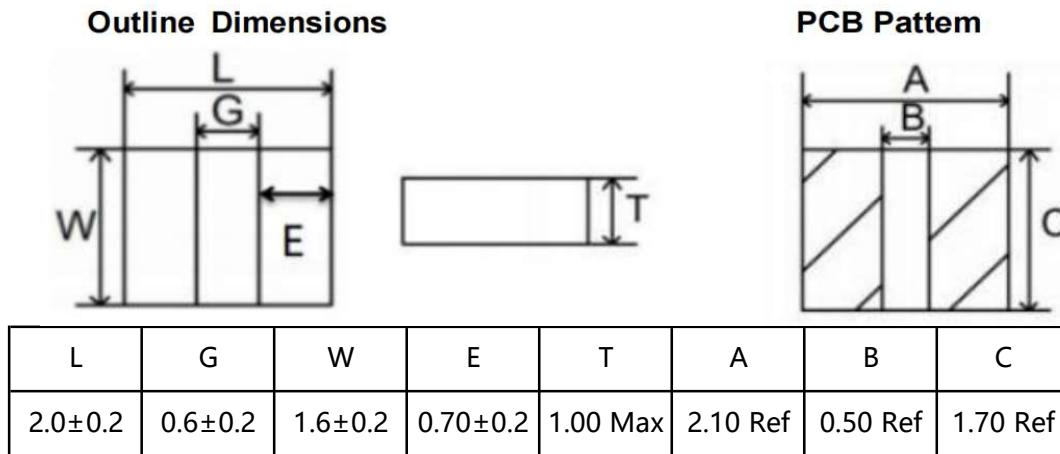
变更履历/Modify Record

版本 Ver.	变更内容/Change content	日期 Date	制定 Prepared By	审核 Checked By
A00	新发行/New release	2024.8.22	唐秀玲	王瑞琳

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1. 产品形状尺寸(单位:毫米)/Product Shape size(Unit:mm):



2. 品名型号命名指南/Nomenclature guidelines for product models:

J - MHS 201610 A - 2R2 M - X
① ② ③ ④ ⑤ ⑥ ⑦

①	公司名称代码/Company name code
J	巨晟电子代码/JUSHENG electronic code
②	产品系列代码/Product family code
MHS	成型功率电感/Molding power inductors
③	产品外形尺寸(毫米)/Product dimension(mm)
201610	长2.0*宽1.6*高1.0毫米/Length2.0 *Width1.6 *Height1.0mm
④	外观形状区分代码, 请参考产品形状尺寸页面
A	Appearance shape distinguishes the code ,Please refer to the product shape and size page
⑤	电感量标识(亨利)/Inductance identification(H)
2R2	R22(0.22μH) , 2R2(2.2μH) , 100(10μH) , 221(220μH) , 202(2000μH)
⑥	电感容差字母代码/Inductance tolerance letter code
M	J±5% , K±10% , L±15% , M±20% , P±25% , N±30%
⑦	内部管理代码/Internal management code
X	无代码为常规产品, 其它请咨询/No code regular product, other please consult

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3. 耐高温等级/Temperature resistance class:

工作温度: -55°C ~ +125°C(含自温升)

Operating Temperature : -55°C ~ +125°C(Including self - temperature rise)

4. 电气性能表/Electrical Characteristics List:

NO.	Part Number	Inductance (uH)	DCR (mΩ)		Isat (A)		Irms (A)	
			Max.	Typ.	Max.	Typ.	Max.	Typ.
1	J-MHS201610A-R10M	0.10	12.0	7.0	8.4	9.0	8.0	8.5
2	J-MHS201610A-R11M	0.11	13.0	7.5	8.2	8.9	7.5	8.0
3	J-MHS201610A-R15M	0.15	14.0	8.0	8.0	8.7	7.0	7.6
4	J-MHS201610A-R22M	0.22	18.0	11.0	7.5	8.2	6.3	6.9
5	J-MHS201610A-R24M	0.24	19.0	12.0	7.4	8.0	6.2	6.8
6	J-MHS201610A-R33M	0.33	22.0	17.0	6.5	7.0	5.3	5.7
7	J-MHS201610A-R47M	0.47	25.0	22.0	5.5	6.3	5.0	5.5
8	J-MHS201610A-R68M	0.68	32.0	25.0	4.7	5.2	4.3	4.6
9	J-MHS201610A-1R0M	1.0	43.0	35.0	4.2	4.6	4.1	4.5
10	J-MHS201610A-1R5M	1.5	100.0	80.0	2.9	3.2	2.3	2.6
11	J-MHS201610A-2R2M	2.2	130.0	120.0	2.8	3.0	2.1	2.5
12	J-MHS201610A-3R3M	3.3	170.0	140.0	2.0	2.3	1.5	1.7
13	J-MHS201610A-4R7M	4.7	220.0	190.0	1.8	2.0	1.4	1.6
14	J-MHS201610A-100M	10.0	580.0	483.0	1.1	1.4	0.7	1.0

Test remarks:

1.All test data is referenced to 25 °C ambient.

2.Test Condition:1MHz, 1.0Vrms.

3.Irms:DC current (A) that will cause an approximate ΔT of 40 °C.

4.Isat:DC current (A) that will cause L0 to drop approximately 30%.

5.The rated current as listed is either the saturation current or the heating current depending on which value is lower.

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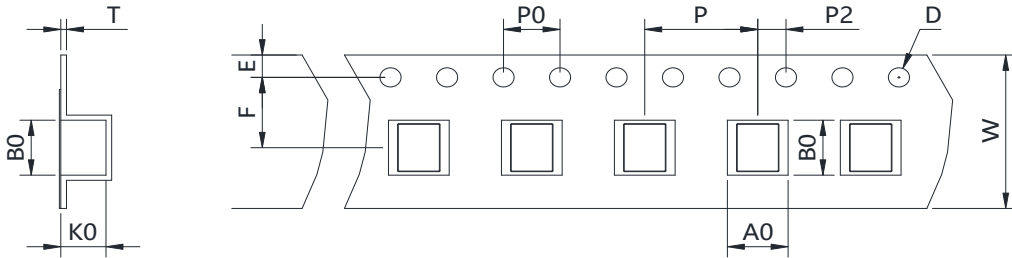
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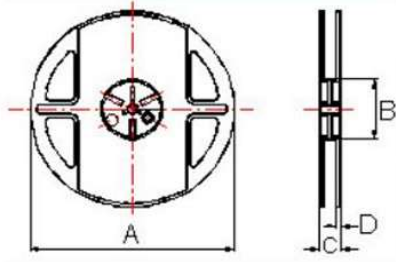
5. 包装/PACKAGE :

(1) Tape Dimensions(Unit:mm)



Part No.	W	A0	B0	K0	D	F	E	P	P0	P2	T
MHS201610A	8.0 ±0.3	1.95 ±0.1	2.35 ±0.1	1.15 ±0.1	1.5 ±0.1	3.5 ±0.1	1.75 ±0.1	4.0 ±0.1	4.0 ±0.1	2.0 ±0.1	0.25 ±0.05

(2) Reel Dimensions (Unit:mm)



Item	A	B	C	D
Dimension	178.0 ±2.0	60.0 ±2.0	13.0 ±2.0	1.5 ±1.0

(3) Packaging Quantity (Unit:Pcs)

P/N	Chip/Reel
MHS201610A	3000

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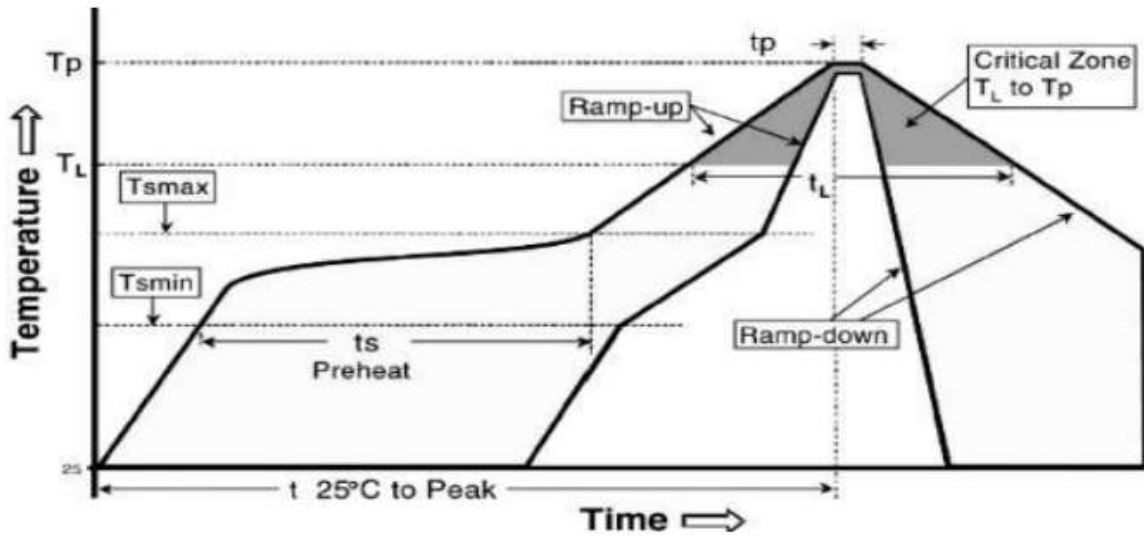
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6. 建议回流焊温度曲线/Reflow temperature profile is recommended:



Profile Feature	Lead (Pb)-Free solder
Preheat:	
Temperature Min (T_{smin})	150°C
Temperature Max (T_{smax})	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 seconds
Average ramp-up rate: (T_{smax} to T_p)	3°C / second max.
Time maintained above :	
Temperature (T_L)	217°C
Time (t_L)	60- 150 seconds
Peak Temperature (T_p)	260°C
Time within $+0^{\circ}C$ of actual peak Temperature (t_p) ²	10 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8minutes max.

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7. 可靠性测试/Reliability Test:

Item	Specification and Requirement	Test Method								
Solderability	1. No case deformation or change in appearance 2. New solder coverage More than 90%	1. Preheat: 155°C ± 5°C , 60S ± 2S 2. Tin: lead-free. 3. Temperature: 245°C ± 5°C , flux 3.0S ± 0.5S.								
Mechanical shock	1. No case deformation or change in appearance 2. $\Delta L/Lo \leq \pm 10\%$	1. Acceleration: 100G 2. Pulse time: 6ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions								
Mechanical vibration	1. No case deformation or change in appearance 2. $\Delta L/Lo \leq \pm 10\%$	1. The test samples shall be soldered to the board. Then it shall be submitted to below test conditions. <table border="1" style="margin: 10px auto;"> <tr> <td>Fre. Range</td> <td>10~55Hz</td> </tr> <tr> <td>Total Amplitude</td> <td>1.5mm</td> </tr> <tr> <td>Sweeping Method</td> <td>10Hz to 55Hz to 10Hz</td> </tr> <tr> <td>Time</td> <td>For 2 hours on each X, Y, Z axis.</td> </tr> </table> 2. Recovery: At least 2 hours of recovery under the standard condition after the test, followed by the measurement within 24 ± 2 hours.	Fre. Range	10~55Hz	Total Amplitude	1.5mm	Sweeping Method	10Hz to 55Hz to 10Hz	Time	For 2 hours on each X, Y, Z axis.
Fre. Range	10~55Hz									
Total Amplitude	1.5mm									
Sweeping Method	10Hz to 55Hz to 10Hz									
Time	For 2 hours on each X, Y, Z axis.									
Thermal Shock	Inductance change: Within ± 10% Without distinct damage in appearance	1. First -55°C for 30 minutes, last 125°C for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 2 minutes. 3. Measured at room temperature after placing for 24 ± 2 hours								
Humidity Resistance	Inductance change: Within ± 10% Without distinct damage in appearance	1. Reflow 2 times, 2. 85°C, 85%RH, 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours								
Low temperature storage	Inductance change: Within ± 10% Without distinct damage in appearance	1. Temperature: -55 ± 2°C 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours								

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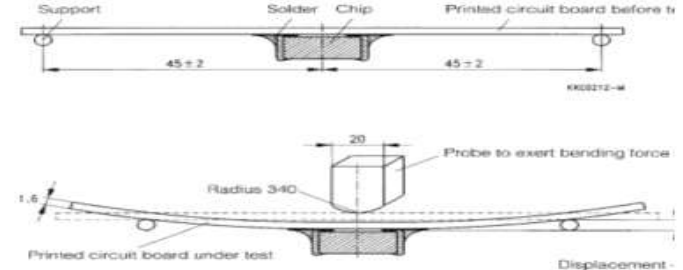
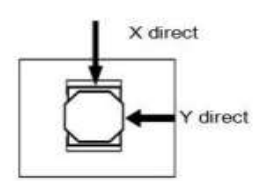
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7. 可靠性测试/Reliability Test:

High temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	<ol style="list-style-type: none"> 1. Temperature: $+125 \pm 2^\circ\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours
Board Flex	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	<ol style="list-style-type: none"> 1. Run through IR reflow for 2 times; 2. Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down 3. The apparatus shall consist of mechanical means to apply a force which will bend the board (D) x = 2 mm minimum. 4. The duration of the applied forces shall be 60 ± 5 sec. The force is to be applied only once to the board. 
Terminal Strength	No removal or split of the termination or other defects shall occur.	<ol style="list-style-type: none"> 1. The test samples shall be soldered to the board 2. Push the product vertically from the side of the sample using the thrust tester. 3. Automotive electronics: 17.7N, $60\text{S} \pm 1\text{s}$, X, Y direct. 

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