

for Automotive Electronics

SPECIFICATIONS

CUSTOMER	比亚迪-规划院
PRODUCT DESCRIPTION	WIRELESS CHARGING COIL ASSEMBLY
Sunlord P/N	MQQTR785545S120Y02
CUSTOMER P/N	15961539-00

[New Released, ☐ Revised]

SPEC No.: MQQ240001

【This SPEC is total 6 pages 】

【 RoHS Compliant Parts 】

Approved By	Checked By	Issued By
		

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【For Customer approval Only】 Date:

Qualification Status: ☐ Full ☐ Restricted ☐ Rejected

Approved By	Verified By	Re-checked By	Checked By

Comments:

Version Change History				
Rev.	Effective Date	Changed Contents	Change reasons	Approved By
01	Apr.30,2024	New release	/	Yao tianming

for Automotive Electronics

1. Scope
This specification is applied to the Wireless Charging Coil Assembly MQQTR785545S120Y02 based on AEC-Q200.

2. Product Identification (Part Number)

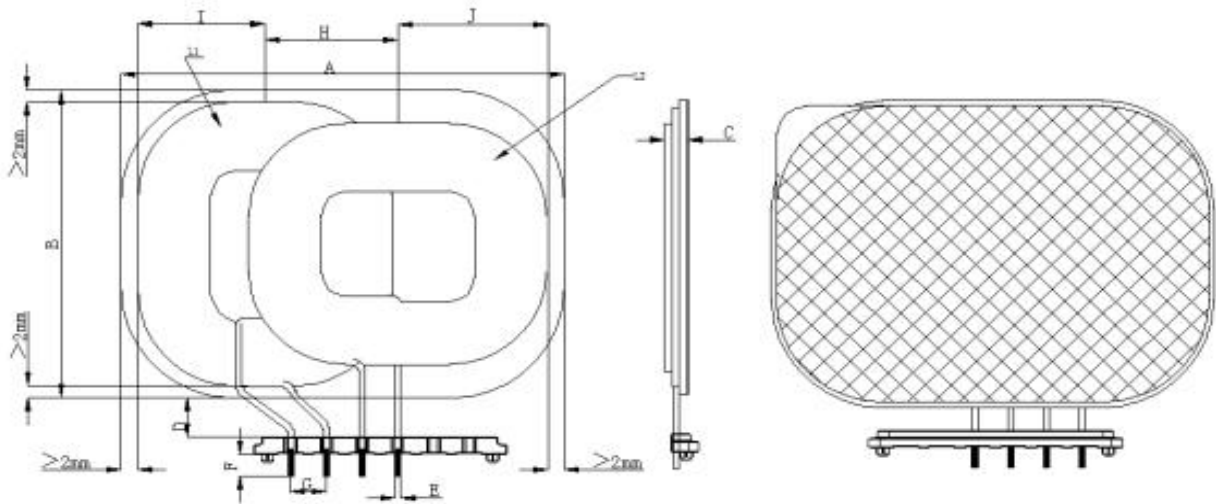
1) Product Identification (Part Number)
MQ Q T R 785545 S 120 Y02
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

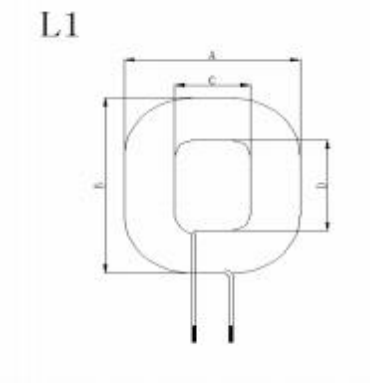
① Product	② Type	③ Location
MQ Wireless Charging Coil Assembly	Q Q: induction A: Resonance M: Multi mode	T T: Transmitter R: Receiver
④ Shape	⑤ External Dimensions	⑥ Ferrite Feature type
R C:Circle R: Rectangle E :Else Shape	785545 External dimensions is 78X55X45mm	S S: Thin sheet T: Central boss E :Else Shape
⑦ Inductance	⑧ Extension number	
120 12.0uH	Y02 02	

3. Shape and Dimensions (Unit mm)

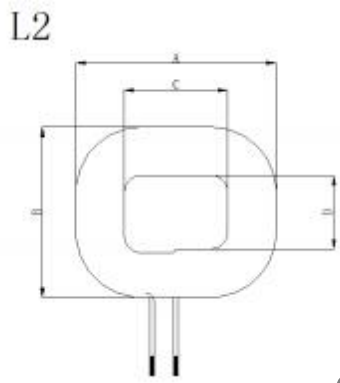
A	B	C	D	E
78.0±0.6	57.4±0.6	MAX4.5	6.5±1	MAX1.2
F	G	H	I	J
4±0.6	6.35Ref	23.6±1	22.6±1	26.3±1

3.1 Product

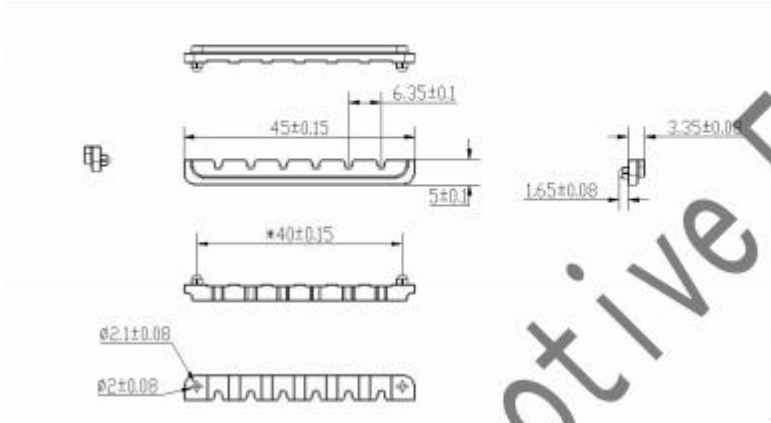




A	B	C	D
45.2±0.8	53.2±0.8	19.5±0.5	27.5±0.5



A	B	C	D
53.2±0.8	45.2±0.8	27.5±0.5	19.5±0.5



No.	Material	Specification	Supplier	Remark
1	Ferrite core	Mn PC95 Q78*57.4*1.5mm or equivalent	Magg magnetoelectric Technology (Zhuhai) Co., LTD Zhejiang Changxing Baicheng electronics Co., LTD	
2	Wire	Litz Wire(0.08*105P*12Ts)	Guangdong Songtian Technology Co., LTD	
3	solder	99.9%(Sn99.9)	Guangdong Songtian Technology Co., LTD	
4	SBS thermoplastic resin	SH -8536	Shenzhen Jing Yu Feng electronic materials Co., LTD	
5	UV glue	UV 3525	Shenzhen Ouyatuo electronic Technology Co., LTD. UV3525 adhesive	
6	Bracket	Bakelite	Undetermined	
7	Back Glue	3M-55256P	3M China Ltd.	

3.2 The wire



Note: The type of wire is silk covered wire with 0.08*105 strands.

4. Winding specification

Coil structure	Coil number	Wire	TURNS
Upper	1	0.08*105	12
Below	1	0.08*105	12

5. Magnetics characteristic

Material name	PC95 or equivalent	
Initial Permeability μ_i	3300 $\pm$ 25%	
Saturation magnetic flux density Bs(mT)	25°C	≥ 530
	100°C	≥ 410
Power loss Pv(mW/cm ³)	100KHz , 200mT	
	25°C	≤ 350
	80°C	≤ 280
	100°C	≤ 290
Curie temperature Tc(°C)	≥ 220	
Electrical resistivity ρ ($\Omega \cdot m$)	≥ 6	
Density (g/cm ³)	4.9	

6. Electrical Characteristics

No	ITEM	SPEC	CONDITION	TEST EQUIPMENT
1	INDUCTANCE (upper)	11.5 $\mu H \pm 10\%$	100KHz/1V	HIOKI-3536 or equivalent
	INDUCTANCE (Below)	12.5 $\mu H \pm 10\%$	100KHz/1V	HIOKI-3536 or equivalent
2	DCR (upper)	65 m Ω Max	DC	HIOKI-3536 or equivalent
	DCR (Below)	65 m Ω Max	DC	HIOKI-3536 or equivalent
3	Q (upper)	90	100KHz/1V	HIOKI-3536 or equivalent
	Q (Below)	95	100KHz/1V	HIOKI-3536 or equivalent
4	Temperature Rise Current	5A	DC Current	Keysight E36232A and DCUU DC700
5	Saturation Current	15A	DC Current	WAYNE KERR 3260B

Test Condition

Ambient Temperature :20 $\pm$ 10°C,RH:65% $\pm$ 20%

If any doubt on the results, measurements/tests should be made within the following limits:

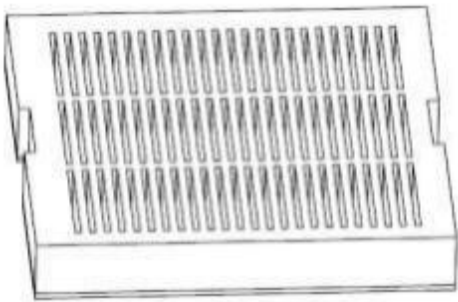
Ambient Temperature: 20 $\pm$ 2°C ,RH:65% $\pm$ 5%

7. Packaging, Storage and use condition

7.1 Packaging

Inner box:

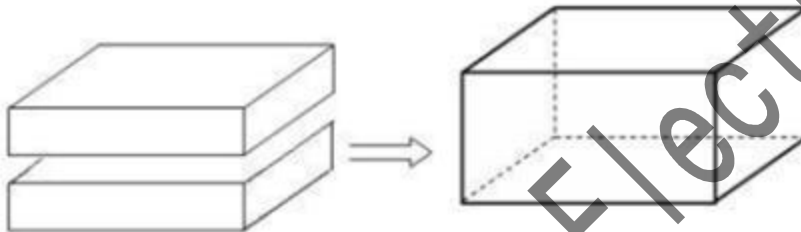
Dimension(mm): $L \times W \times H = 380 \times 260 \times 85$



Quantity per inner box: 96PCS

Carton

Dimension(mm): $L \times W \times H = 400 \times 280 \times 200$



Quantity per carton: $2 \times 96 = 192$ PCS

7.2 Storage and use condition

Storage condition

Recommended keeping conditions: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$, 70%RH (Max.)

Service life : Within the limits of six month from being produced.

The appearance and solder ability should be check, If product is not in expiry date.

Use condition

Use condition limit: $T = -25^{\circ}\text{C} \sim 85$, $\text{RH} \leq 90\%$.