

Customer: \_\_\_\_\_

Issue No. : \_\_\_\_\_

Date of Issue: Nov. 1, 2013 \_\_\_\_\_

Classification:  New  Change  Update \_\_\_\_\_

## Product Specification for Information

Product Description : Contactless Charger Ferrite Module \_\_\_\_\_

Product Part Number : KNCWA15C545Z \_\_\_\_\_

Customer Part Number : \_\_\_\_\_

Application Standard : \_\_\_\_\_

Customer's Receiving Stamp

Panasonic System Networks Kyushu Co., Ltd.

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Prepared: Engineering Group, Magnetic Application Technology Team		
Approved	Checked	Designed

## Revision History of Product Specification for Information

Date	Descriptions	Revised Page	Checked	Designed
2013/11/1	Initial Version			

Title	Specification	No.				
Product Name	Contactless Charger ferrite module	8-1				
<p><u>1. General Information</u></p> <p>1.1 Scope of Application This specification covers the characteristics of Contactless Charger ferrite module.</p> <p>1.2 Part Number</p> <table border="1"> <tr> <td>Panasonic Part Number</td> <td>Customer Part Number</td> </tr> <tr> <td>KNCWA15C545Z</td> <td>*If there is no request, the same one as left is used. —</td> </tr> </table> <p>1.3 Customer Application / Standard Name</p> <p>1.4 Temperature Range Operation Temperature Range : -20°C to +85°C (including self-heating temperature ) Storage Temperature Range : -20°C to +40°C</p> <p>1.5 External Dimensions and Structure Fig. 1 and 2 show the external dimensions and structure.</p>			Panasonic Part Number	Customer Part Number	KNCWA15C545Z	*If there is no request, the same one as left is used. —
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KNCWA15C545Z	*If there is no request, the same one as left is used. —					
Revision		Checked				
Date Established: Nov. 1, 2013	Panasonic System Networks Kyushu Co., Ltd.					
Date Enforced: Nov. 1, 2013						

Title	Specification	No.
Product Name	Contactless Charger ferrite module	8-2

**2. External Dimensions**

Unit: mm ( ): Reference Value

Coil affixing gap: Not running out from ferrite sheet.

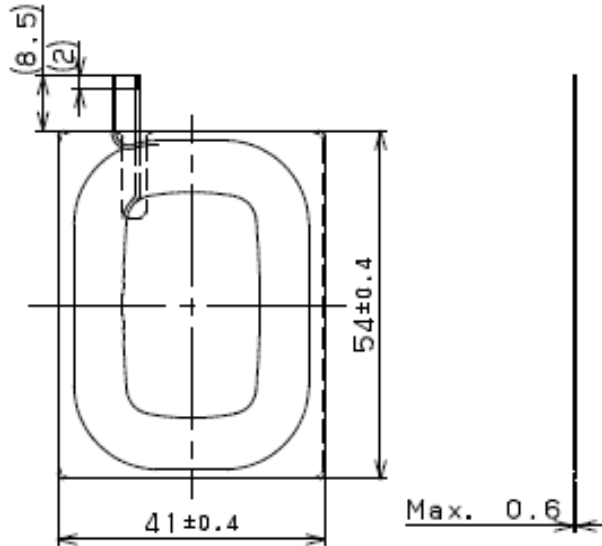


Fig. 1

1) The maximum thickness including warp is  $t=1.5$ mm.

2) Specification of coil

(Copper wire diameter is a standard value.)

Copper wire diameter:  $\phi 0.15 \times 4$

(Finished wire diameter:  $\phi 0.18$ )

3) Methods of dimension measurement

External Dimensions:

Image dimension measuring machine

Thickness: Micrometer

4) Ferrite Sheet dimensions after sintered

(Reference value)

40.5 mm x 53.5mm

Revision	Panasonic System Networks Kyushu Co., Ltd.	Checked
Date Established: Nov. 1, 2013		
Date Enforced: Nov. 1, 2013		

Title	Specification	No.
Product Name	Contactless Charger ferrite module	8-3

### 3. Structure

Unit: mm

( ): Reference Value

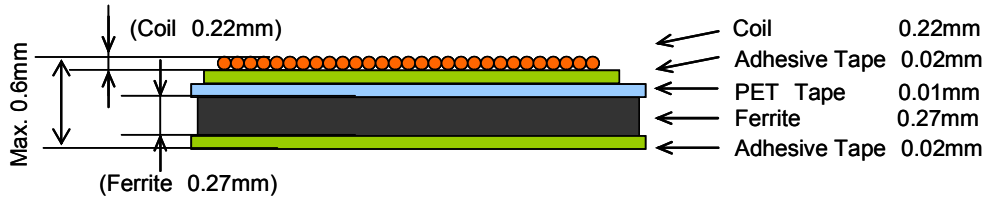


Fig. 2

### 4. Electrical Characteristics

4. 1 Inductance : 15 $\mu$ H +/- 10% Measured Frequency at 120kHz, Temperature 20 +/- 5 °C
4. 2 Q : (over 20) Reference value Measured Frequency at 120kHz, Temperature 20 +/- 5 °C
4. 3 ACR: (Less than 450m $\Omega$ )  
Reference value Measured Frequency at 120kHz, Temperature 20 +/- 5 °C
4. 4 DCR: (Less than 410m $\Omega$ ) Reference value Measured Temperature 20 °C

Revision	Checked
Date Established: Nov. 1, 2013	Panasonic System Networks Kyushu Co., Ltd.
Date Enforced: Nov. 1, 2013	

Title	Specification	No.
Product Name	Contactless Charger ferrite module	8-4

5. Physical Properties

Item	Test Method	Criteria
Vibration Resistance property	A vibration of a total amplitude of 1.5mm is applied at a frequency that oscillates between 10Hz and 55Hz and back to 10Hz every minutes for two hours in each of three directions (up-down, left-right, and back-forth) for a total time of six hours.	No significant scratches, misalignment, peeling of the tape, swelling, or damage to the surface that influence the product's properties during practical use were found in a visual inspection.
Drop Strength	The product is mounted on a 150g mock up chassis and then dropped from a height of 1.7m onto a concrete surface. The product is dropped on its six faces in one cycle and one cycle is carried out.	No significant scratches, misalignment, peeling of the tape, swelling, or damage to the surface that influence the product's properties during practical use were found in a visual inspection.

6. Resistance to Environment

Item	Test Method	Criteria
Leaving in a high temperature environment	After the product is left at a temperature of +85°C +/-2°C for 96 hours, it is left for 2 to 24 hours. Then the measurement is conducted.	No significant scratches, misalignment, peeling of the tape, swelling, or damage to the surface that influence the product's properties during practical use were found in a visual inspection.
Leaving in a low temperature environment	After the product is left at a temperature of -40°C +/-2°C for 96 hours, it is left for 2 to 24 hours. Then the measurement is conducted.	No significant scratches, misalignment, peeling of the tape, swelling, or damage to the surface that influence the product's properties during practical use were found in a visual inspection.
Leaving in a high humidity environment	After the product is left at a temperature of +60°C +/-2°C and humidity of 85% RH to 95% RH for 96 hours, it is left for 2 to 24 hours. Then the measurement is conducted.	No significant scratches, misalignment, peeling of the tape, swelling, or damage to the surface that influence the product's properties during practical use were found in a visual inspection.
Heat cycle test	After the product is exposed to 96 cycles of temperature variations between -40°C (30 min.) and +85°C (30 min.), it is left for 2 to 24 hours. Then the measurement is conducted.	No significant scratches, misalignment, peeling of the tape, swelling, or damage to the surface that influence the product's properties during practical use were found in a visual inspection.

Revision		Checked
Date Established: Nov. 1, 2013	Panasonic System Networks Kyushu Co., Ltd.	
Date Enforced: Nov. 1, 2013		

Title	Specification	No.
Product Name Contactless Charger ferrite module		8-5
<p><u>7. Packaging Specifications</u></p> <p>Fig. 3 and Fig. 4 show the packaging specifications, contents on labels and delivery form.</p> <p><u>8. Production Plant</u></p> <p>Panasonic System Networks Kyushu Co., Ltd.</p> <p><u>9. Precautions for using the product</u></p> <p>(1) Please do not drop the product or leave it outdoors for a long period of time because it will cause a failure.</p> <p>(2) The product is not designed for use in the special environment described below. When using the product in the following special environment, users need to check the performance and reliability.</p> <ul style="list-style-type: none"> <li>▪ Use of the product in a condition where water, oil, medicinal solution, or organic solvent may get on the product or use in liquid.</li> <li>▪ Use of the product under direct sunlight, exposed outdoors, or in a dusty environment.</li> <li>▪ Use of the product in a location exposed to sea breezes or with a high content of chlorine, hydrogen sulfide, ammonia, sulfur oxide, hydrogen chloride, or corrosive gas such as sulfite gas.</li> <li>▪ Use of the product in an environment where it can get wet.</li> </ul> <p>(3) When installing the product, please be sure to follow the instructions below.</p> <ul style="list-style-type: none"> <li>▪ Please do not subject the ferrite sheet to a secondary process.</li> <li>▪ Please do not put overloads (stress etc.) on the product. It causes deformations and breakages of the product.</li> <li>▪ Please do not use the product when the product thickness including warp becomes over 1.5mm due to overloads during mounting.</li> <li>▪ Please do not mount the coil again on ferrite sheet.</li> </ul> <p>(4) Please do not use the product in equipments which it can directly affect human life.</p> <p>(5) Soldering conditions:</p> <p>Recommended soldering conditions</p> <ul style="list-style-type: none"> <li>▪ Soldering iron top temperature 300 +/-10°C, less than 7 seconds.</li> </ul>		
Revision		Checked
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Date Enforced: Nov. 1, 2013		

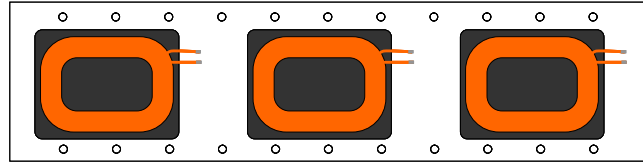
Title	Specification	No.
Product Name	Contactless Charger ferrite module	
		8-6
<p><b>10. Storage</b></p> <p>(1) Please store the product in a packaged condition in a location with a temperature of -20°C to +40°C and a humidity of 30% RH to 75% RH without any sudden temperature/humidity change (no condensation), direct sunlight, pressure, vibration, or shock.</p> <p>(2) Please do not store the product in a location exposed to sea breezes or with a high content of chlorine, hydrogen sulfide, ammonia, sulfur oxide, hydrogen chloride, or corrosive gas such as sulfite gas.</p> <p>(3) The maximum storage period should be no more than six months after shipment. In addition, if the product has stored more than six months, please check the soldering property and tape adherence property, then please use it.</p> <p><b>11. Environmental Protection and Other matters</b></p> <p>(1) Components of the product are all listed as being made from existing chemical substances based on the Japanese Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture etc.</p> <p>(2) None of the product's components contain specified bromine flame-retardant substances.</p> <p><b>12. Others</b></p> <p>(1) Significant changes concerning the parts such as the production plant, materials, and processes shall be made upon prior discussion.</p> <p>(2) Please place your company's receiving stamp on these Delivery Specifications and return one Copy to our company. If we receive an order from your company before these Delivery Specifications are returned, we will assume that these Delivery Specifications were received by your company.</p> <p>(3) These Delivery Specifications shall be renewed automatically every year unless a written Notification is submitted by our company or your company within three months before the date of expiration described on the front cover of these Delivery Specification. If the need for a revision arises, the content shall be revised upon prior discussion.</p> <p>(4) Our company shall assume no responsibility whatsoever for any problems caused by using the product in a way different from the descriptions in these Delivery Specifications.</p> <p><b>13. Export Trade Control Order</b></p> <p>The product is not subject to regulation under items 1 to 15 listed in Appended Table 1 or any item listed in Appended Tablet 2 of the Japanese Export Trade Control Order.</p>		
Revision		Checked
Date Established: Nov. 1, 2013	Panasonic System Networks Kyushu Co., Ltd.	
Date Enforced: Nov. 1, 2013		



Title	Specification	No.
Product Name	Contactless Charger ferrite module	8-7

14. Packaging

3pcs / 1 sheet



Polyethylene bag  
5 sheets (15pcs)

Interior box  
10 bags (150pcs)

Exterior box  
10 boxes (1,500pcs)

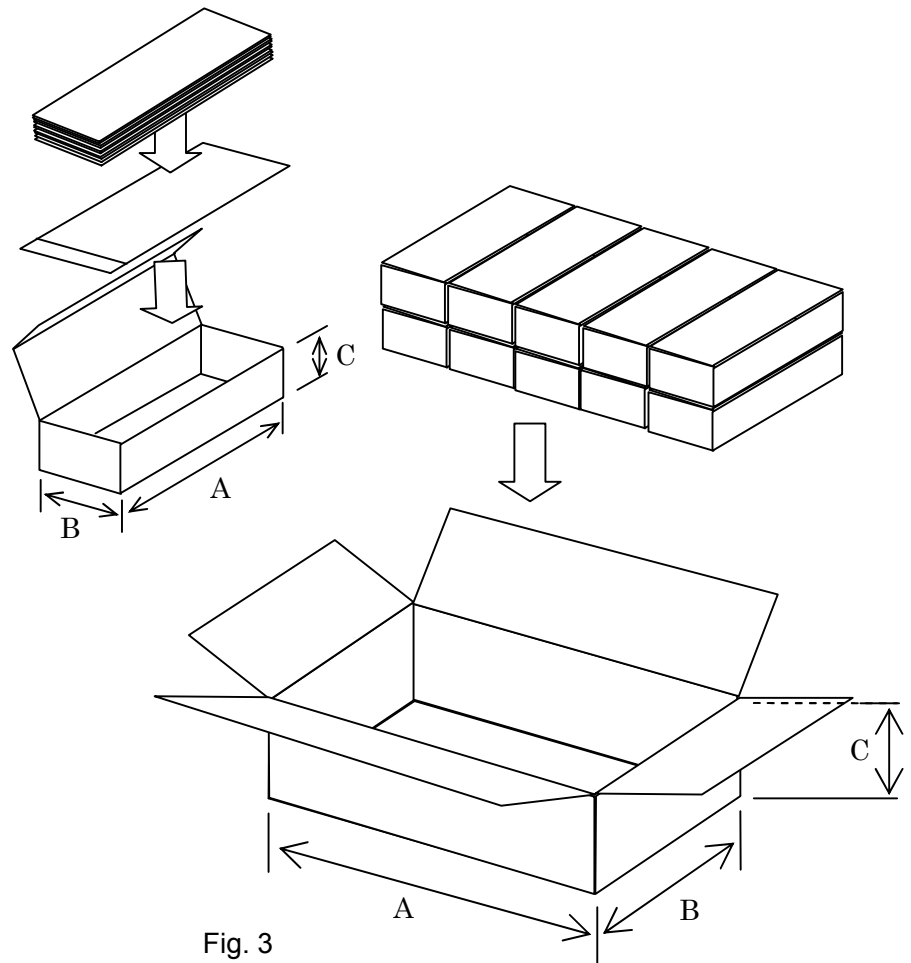


Fig. 3

Part Number	1 sheet Quantity (pcs)	Interior box			Exterior box				
		Quantity (pcs)	Dimensions (mm)			Quantity (pcs)	Dimensions (mm)		
			A	B	C		A	B	C
KNCWA15C545Z	3	150	255	75	69	1,500	389	282	173

(The above-mentioned is a nominal size.)

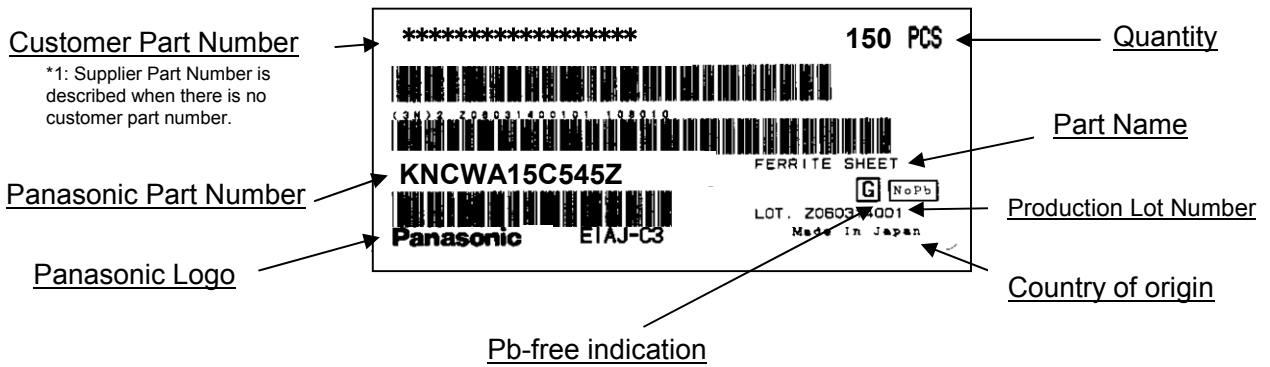
Revision	Panasonic System Networks Kyushu Co., Ltd.	Checked
Date Established: Nov. 1, 2013		
Date Enforced: Nov. 1, 2013		

Title	Specification	No.
Product Name	Contactless Charger ferrite module	8-8

15. Indications

(1) Label on Interior box

Bar Code Display



(2) Label on Exterior box

Bar Code Display

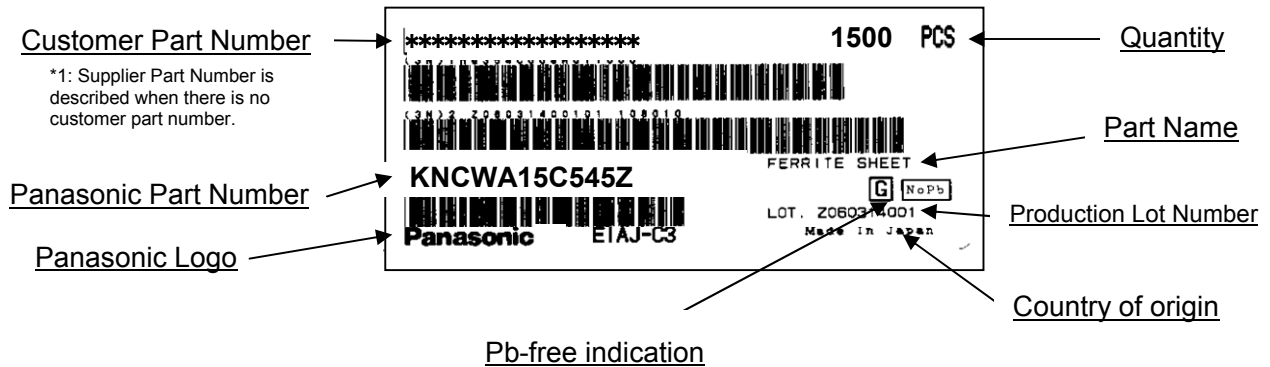


Fig. 4

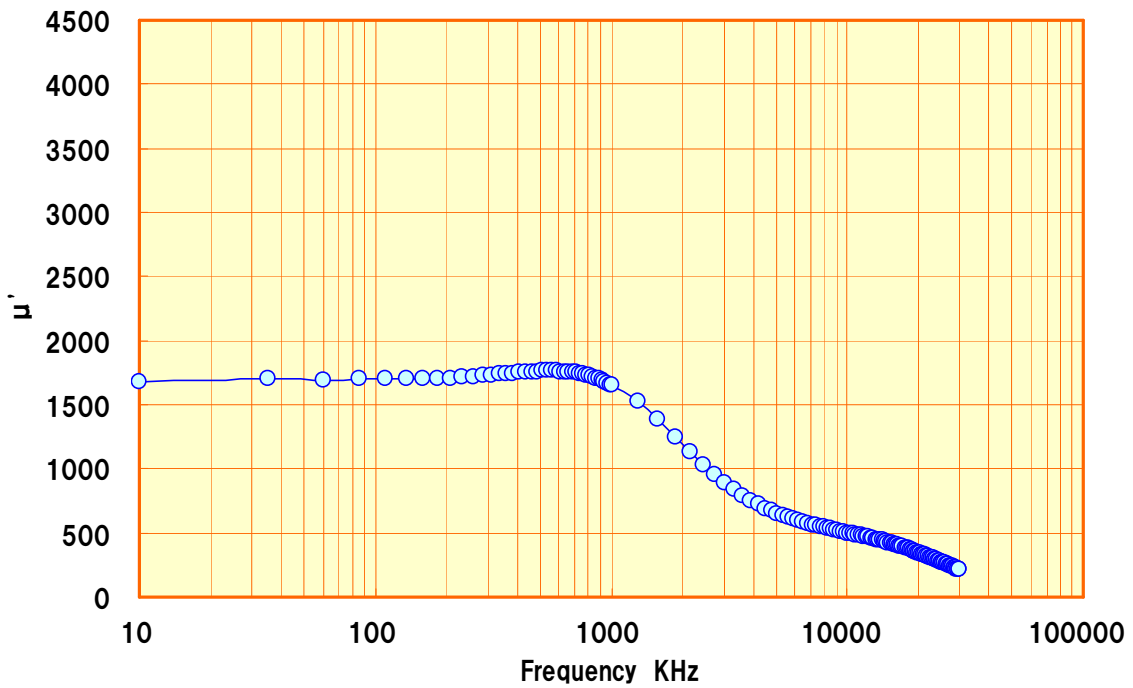
Revision	Panasonic System Networks Kyushu Co., Ltd.	Checked
Date Established: Nov. 1, 2013		
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Title	<b>Reference data</b>	No.
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**Permeability frequency characteristics (Reference value)**

Material name : **MC-1900**

$\mu'$  vs Frequency



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