

To: Dear customer

Date Oct. 21st 2015  
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Subject: Announcement on changes in the aluminium moisture barrier bag supplier, the inner packing method, and the outer packing box for MITSUBISHI Silicon RF Power devices.

We like to inform you of the change in the aluminium moisture barrier bag supplier from Asahi Kasei due to the price increase of the bag from Asahi Kasei. We observed no difference between new bags and current bags in the performance such as surface resistance, heat seal strength, water vapor transmission rate, and other points during the test.

With this change, we will also change packing method from use of a individual inner carton to use of a cardboard insert and from use of a-carton-in-a-carton packing method to single use of a double-wall carton.

We conducted the transportation test including dropping and vibration tests and observed no problem in the test.

Therefore, we come to conclusion that there is no problem in implementing this change, and will apply the change to shipments from January 2016.

●Products subject, Reason of change, Change schedule

Subject	Product name	MOS FET RF Power device.		
	Type number	RD series discrete devices of SOT89/SLP/PMM/HPM package.		
Reason, contents	Changed contents	Changes of manufacturer, inner packing outer packing box type.		
	Reason of change	*Price increase in a current bag. *Size and shape of the new aluminium moisture barrier bag is different from current bag's and we can not use the same shipping method .		
	Current		New	
	<div>●Aluminium moisture barrier bag Manufacturer:Asahi Kasei Type :M-seal bag Color:Silver ●Inner packing method: innner carton box  Reel band:Without ●Outer packing method(details shown on page 4) : A carton in a carton</div> <div>●Aluminium moisture barrier bag Manufacturer:DESCO Type:Two sides seal bag Color: Burnished silver ●Inner packing method:Custom cardboard insert It will firmly cover and protect reels inside. Only HPM packages will have conductive reel bands(less than <math>10^{10}</math>ohm). ●Outer packing method(details shown on page 4) : Single use of double wall carton.</div>			
Change schedule				
		'2015		
		Oct	Nov	Dec
	Transportation test.	Finished		
Change schedule	Submit a revised specifications.			●
	Sequential application to the new shipping package from Jan 2016.			▼ →

●Others

We will submit a revised specifications.

Old and new packing materials will not be mixed in a outer carton. However, new and old packing methods may coexist in a shipment lot of one order.

Applicable package, type number, contents of the change .....Page 2

Packing method .....page3

Comparison result current and new aluminium moisture barrier bag. ....Page4

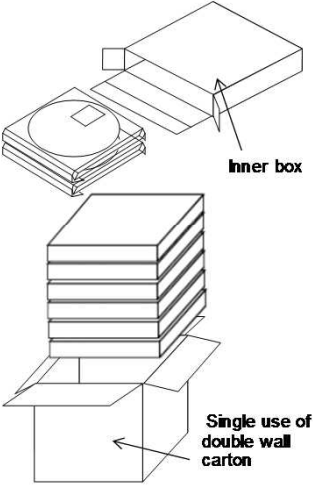
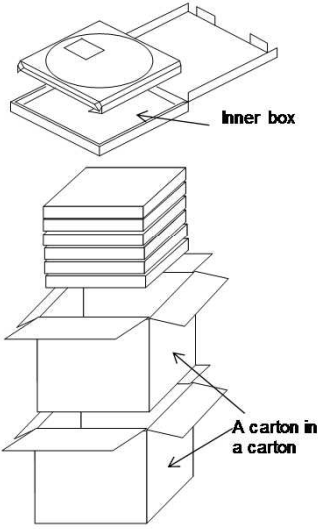
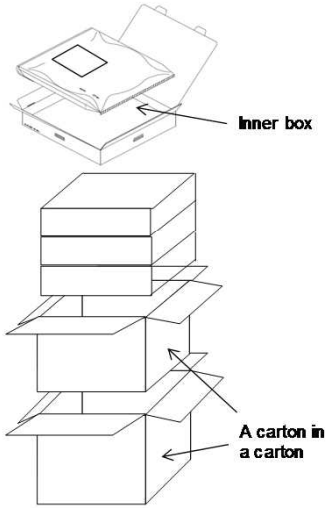
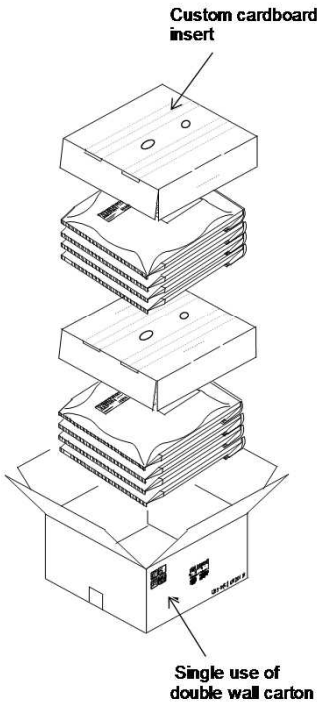
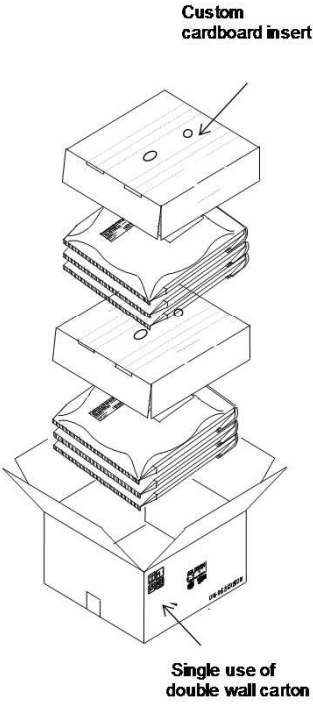
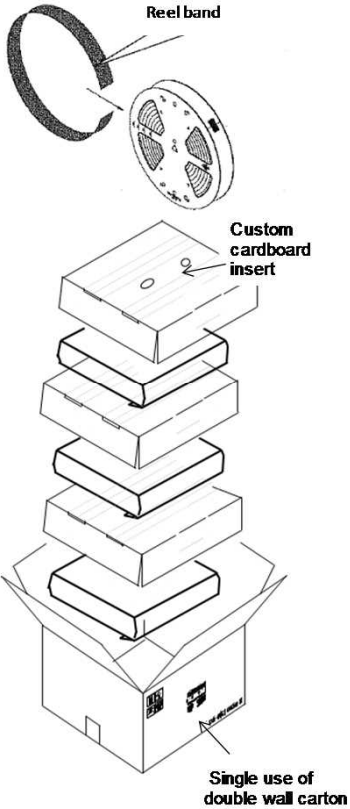
Result of transportation test. ....Page5

Revision of specifications. ....Page6

● Applicable package, type number, contents of the change

Package outlines	Type number	Change contents			
		Aluminium moisture barrier bag	Inner packing method	Outer packing box	Maximum storage number Number of reels per outer box
SOT89	RD00HHS1-T113	<p>Current: Asahi Kasei Corporation Configuration: M-seal bag</p> <p>↓</p> <p>New: DESCO INDUSTRIES INC. Configuration: Two side seal bag Size: 356×407mm</p>	<p>Current: Packing the taping reel in the inner carton box .</p> <p>↓</p> <p>New: Covered with a damper to the product, and fixed. Only HPM package, will wound the reel band to reel taping.</p>	<p>Current: A carton in a carton. (SOT89 is single use of double wall carton..)</p> <p>↓</p> <p>New: Single use of double wall carton. Size(WLH): 366×359×173mm</p>	<p>Current: 12reels</p> <p>↓</p> <p>New: 8reels</p>
	RD00HVS1-T113				
	RD01MUS1-T113				
	RD01MUS2-T113				
	RD01MUS2B-T113				
	RD02LUS2-T113				
SLP	RD02MUS1-T***				<p>Current: 6reels</p> <p>↓</p> <p>New: 8reels</p>
	RD02MUS1B-T***				
	RD04HMS2-T***				
	RD04LUS2-T***				
	RD07MUS2B-T***				
	RD07MVS1-T***				
	RD07MVS1B-T***				
	RD07MVS2-T***				
	RD10MMS2-T***				
	RD12MVS1-T***				
PMM	RD05MMP1-T***				<p>Current: 6reels</p> <p>↓</p> <p>New: 6reels</p>
	RD07MUP2B-T***				
	RD09MUP2-T***				
	RD12MVP1-T***				
HPM	RD35HUF2-T****	<p>Current: Asahi Kasei Corporation Configuration: M-seal bag</p> <p>↓</p> <p>New: DESCO INDUSTRIES INC. Configuration: Two side seal bag Size: 356×458mm</p>			<p>Current: 3reels</p> <p>↓</p> <p>New: 3reels</p>
	RD50HMS2-T****				
	RD70HUF2-T****				

●Packing method

Packages	SOT89	SLP/PMM	HPM
Current (Inner packing box)	<ul style="list-style-type: none"> <li>●Inner packing method: Inner packing box 2reels/1inner box</li> <li>●maximum quantity 12reels/outer box</li> <li>●Outer packing box : Single use of double wall carton</li> </ul> 	<ul style="list-style-type: none"> <li>●Inner packing method: Inner packing box 1reel/1inner box</li> <li>●maximum quantity 6reels/outer box</li> <li>●Outer box : A carton in a carton</li> </ul> 	<ul style="list-style-type: none"> <li>●Inner packing method: Inner packing box 1reel/1inner box</li> <li>●maximum quantity 3reels/outer box</li> <li>●Reel band: Without</li> <li>●Outer box : A carton in a carton</li> </ul> 
Packages	SOT89/SLP	PMM	HPM
New (custom damper)	<ul style="list-style-type: none"> <li>●Inner packing method: Custom damper It will be firmly covers and protects for the reel 4reels/1custom damper</li> <li>●maximum quantity 8reels/1outer box</li> <li>●Outer packing box : Single use of double wall carton</li> </ul> 	<ul style="list-style-type: none"> <li>●Inner packing method: Custom damper It will be firmly covers and protects for the reel 3reels/1custom damper</li> <li>●maximum quantity 6reels/ outer box</li> <li>●Outer packing box : Single use of double wall carton</li> </ul> 	<ul style="list-style-type: none"> <li>●Inner packing method: Custom damper It will be firmly covers and protects for the reel 1reel/1custom damper</li> <li>●maximum quantity 3reels/outer box</li> <li>●Reel band: With the reel band</li> <li>●Outer packing box : Single use of double wall carton</li> </ul> 

● Result of comparison between current and new aluminium moisture barrier bag.

■ Appearance comparison

Current (M-seal bag)	New (Two side seal bag)
 	 

■ Characteristics comparison result

	Content	Current	New	Result
Appearance	Configuration	M-seal bag	Two side seal bag	Configuration is different
	Color	Silver	Silver of Shiny than Current	Color is different.
Electrical properties	Surface resistance at the actual measurement value.	Inside $\leq 10^6 \Omega$ Outside $\leq 10^{11} \Omega$	Inside $\leq 10^{11} \Omega$ Outside $\leq 10^{11} \Omega$	Same as current. Meet a criterion for ANSI/ESD S541 (Average level: $10^4 \sim 10^{11}$ )
Physical properties	Charged Voltage	3V	2V	Same as current. Not charged voltage.
	Heat seal strength	>3kg	>2.36Kg	Same as current
	Water vapor transmission rate at Manufacturer data	<0.02g/m <sup>2</sup> day	<0.005g/m <sup>2</sup> day	Same or more than current.
	Puncture strength at manufacturer data.)	1.9kg	11.3kg	Same or more than current.
Other	RoHS	Compliance	Compliance	RoHS2 and REACH Compliance statement.

●Result of transportation test.

■Transportation test condition (Vibration test and dropping test)

①Vibration test

Standard :ASTM-D4169 (ASSURANCE LEVEL II)

Standard Practice for performance testing of shipping containers and system.

Test time: 60 minutes

Packaging condition: Test in a state of putting the product (On the maximum number)

②Dropping test

Standard : JISZ0202

Dropping Height=0.8m

1set=Dropping 10 times (six sides)

State of the falling surface: Concrete or anvil

■Transportation test Result

As a result,passed the transportation test (Vibration test and dropping test).

Classification		Results
Packing material	Protrude of product	No protrude.
	Appearance	No abnormalities in appearance.
	Peeling	No peeling of adhesive tape on the outer packing box. No peeling of the new aluminium moisture barrier bag.
Products	Appearance	No abnormalities in appearance.
	Electrical characteristics	No difference of electrical characteristics before and after the transportation test

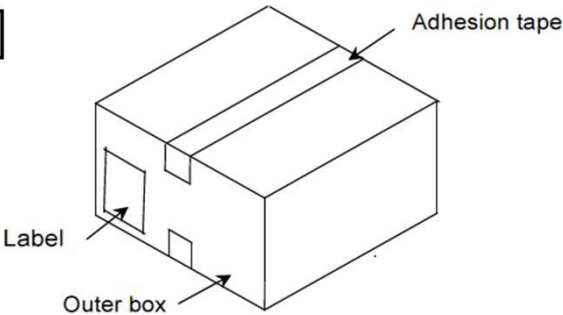
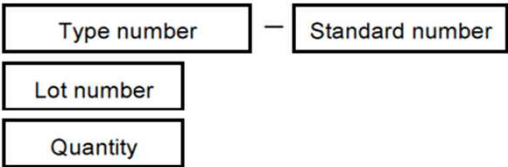
- Revision of specifications.  
Revision part of "Packing and indication method".  
Shown below is a part of revised specification of SLP RD07MUS2B-T214 after the change.

# MITSUBISHI ELECTRIC CORPORATION

## 13-4. Packing and labeling method

### 13-4-1 Outer box and Indication

Following contents are printed on the label.



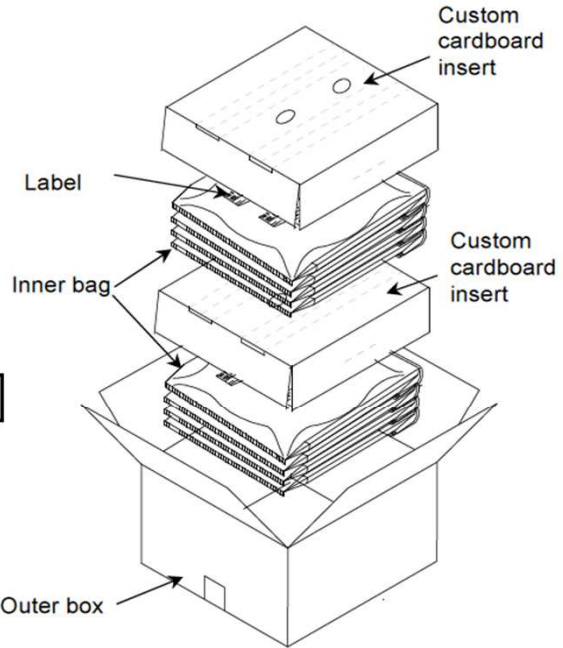
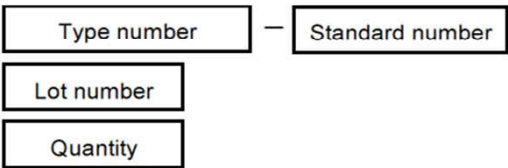
### 13-4-2 Inner packing and labeling method

- Maximum quantity
  - 32,000pcs (2custom cardboards) /1outer box
  - 16,000pcs (4inner bags) /1custom cardboard insert
  - 4,000pcs (1reel) / 1inner bag

- Labeling of the inner bag
 

Following contents are printed on the label.

Paste labels for each lot in the case of multiple lot mixed



SPECIFICATION	GNOK-RD07MUS2B-T214-A	PAGE	8 / 11
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