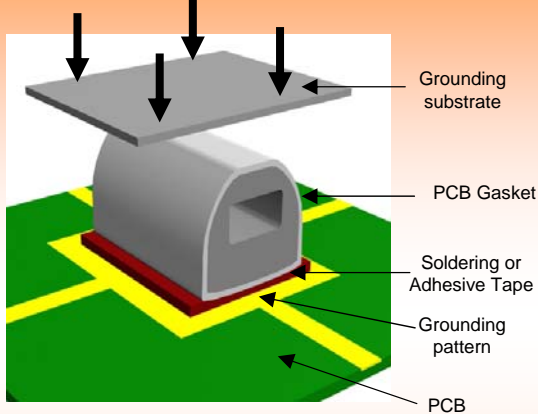


Elastic & Electric Contacts

PCB Gasket[®]



Electric Grounding / Mechanical Cushion
(SMR Series, JSM Series, PCBF Series)

World Charming Product

1 What is PCB Gasket[®] ?

PCB Gasket is mounted on the circuit pattern or the ground pattern by SMT, and reflow soldering is available by solder cream. As an elastic & electrical contacts, PCB Gasket is useful for EMI countermeasure, electrical grounding, electrical contacts and it also offers cushion. Also, PCB Gasket can be attached by other methods. PCB Gasket has excellent properties of elasticity & conductivity. So it is not broken and no deformation like metal finger, and matched well with any frame at any PCB position. To make PCB Gasket, we adopted new materials and structures (patented). PCB Gasket can replace EMI Gasket (adhesive tape type), finger and dispensing gasket. Moreover, due to automatic pick up & reflow soldering, its production yield and the reliability are very good.

2 Features

- a. Due to reflow soldering, it has low contact resistance and strong adhesion strength.
- b. Excellent elasticity & low compression force.
- c. High production yield & Re-work available.
- d. Various sizes from small to big.
- e. Reliable products for mass production.
- f. Halogen Free, EU-RoHS compliant, Non-flammable (over UL 94V-1)

3 Application

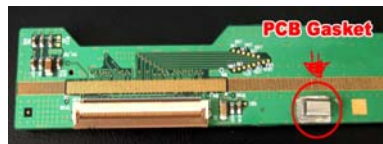
LCD, PDP, Mobile Phone, Navigation, Monitor, FPCB, Antenna, Touch Panel, Digital Camera, Key Board

Electrical Grounding & Connecting



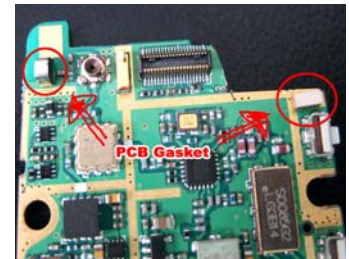
<LCD etc.>

EMI/ESD Countermeasure



<LCD etc.>

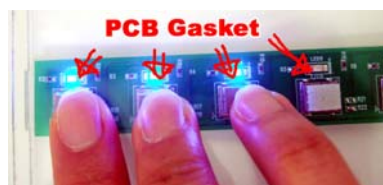
Shock & Vibration Countermeasure



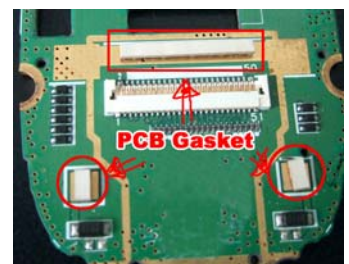
<Mobile Phone Antenna>



<Mobile Phone>



<Touch Panel etc.>

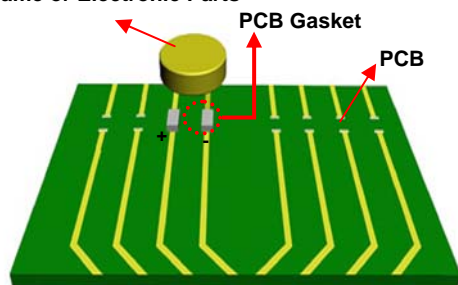


<Mobile Phone & FPCB etc.>

4 Structure & Features

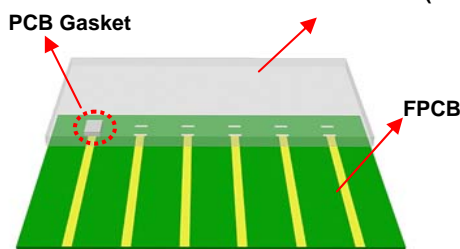
Type	SMR Type			JSM Type			PCBF Type	
	SMR-TSA	SMR-TS	SMR-T	JSM-TSS	JSM-TS	JSM-S	PCBF-S	
Structure & Materials								
	① Elastomer Core ⑤ Conductive PI Film	② Conductive Elastomer ⑥ Substrate	③ Elastic Adhesive ⑦ Conductive Tape	④ Metal Plate				
Recommend Width	Over 3mm	Over 3mm	Over 3mm	Over 2mm	Over 2mm	Over 3.0mm	1.0 - 1.5mm	
Recommend Height	Over 2.0mm	Over 2.0mm	Over 2.0mm	Over 1.5mm	Over 1.5mm	Over 2.5mm	0.3 - 1.2mm	
Operation Temperature	-35℃ ~ 125℃							
Resistance	Vertical	Typical 0.5 Ω	Typical 0.05 Ω	Typical 0.05 Ω	Typical 0.5 Ω	Typical 0.5 Ω	Typical 0.5 Ω	Typical 0.1 Ω
	Surface	Typical 0.05 Ω/□	Typical 0.05 Ω/□	Typical 0.05 Ω/□	Typical 0.1 Ω/□	Typical 0.1 Ω/□	Typical 0.1 Ω/□	Typical 0.1 Ω/□
Elastomer Hardness	Shore A 65	Shore A 50	Shore A 65	Shore A 50	Shore A 50	Shore C 25	Shore A 40	
Recovery rate (20% x 10,000 times)	Typical 95%	Typical 95%	Typical 95%	Typical 95%	Typical 95%	Typical 90%	Typical 90%	
Soldering Strength	Typical 2000gf/25mm	Over 1.0kgf/cm (Betw een PCB and PCB Gasket)						
Abrasion Test	No metal dust after rubbing w ith PP tape (2kg roller/ 10 cycles)							
Thermal Shock	Change ratio of resistance & elasticity is low er than 10%(-40℃ x 0.5hr <-> 85℃ x 0.5hr x 100cycles)							
High Temperature / Humidity	Change ratio of resistance & elasticity is low er than 10% (85℃ / 85% RH / 100hrs)							
Salt spray	Change ratio of resistance & elasticity is low er than 10% (KS D9502, 5% NaCl, 35℃/12hrs)							
Flammability	Over UL 94 V1 (UL certification : File No. E250169)						UL 94 HB	
Environment	Halogen Free, EU-RoHS Compliant, Lead Free(But some models contents small quantity of Halogen)							
Recommend Solder Pattern	None SMT type (Tape Adhesion)	Separated Pattern	No Separated Pattern					
		In case of the separated pattern, we would like to recommend you that solder pattern is 0.4mm bigger than PCB Gasket's width & length and 0.3mm gap is needed as well.						

Frame or Electronic Parts



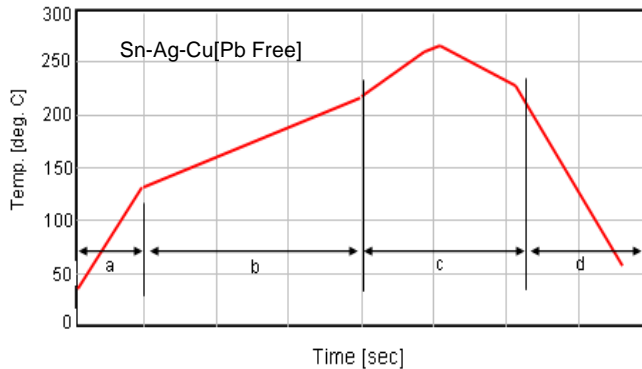
<Applied on PCB >

ITO Coated Glass(LCD)



<Applied on Substrate >

5 Reflow Soldering Condition



Zone	Temp.range[deg.C]	Time [Sec]
a	RT ~ 130	60
b	Max. 220	90 ~ 150
c	220 ~ 260[max.270]	90 ~ 150
d	220 ~ RT	Min. 60

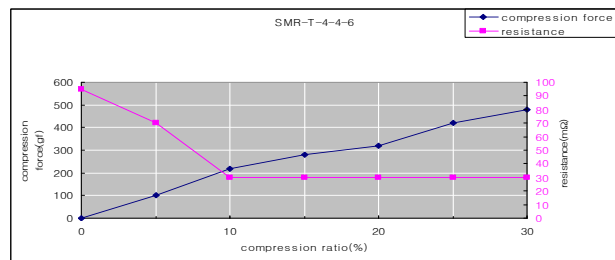
* Peak time : less than 10 sec

* PCB Gasket satisfy most of the Lead free reflow soldering conditions including above.

6 Test Method

Surface Resistance

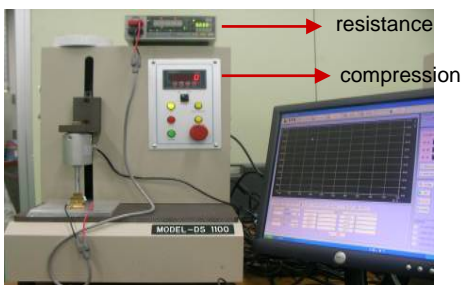
Agilent 4338B Miliohmmeter. Test when sample height is pressed till 10%..



Vertical Resistance & Compression Force as per Compression Ratio

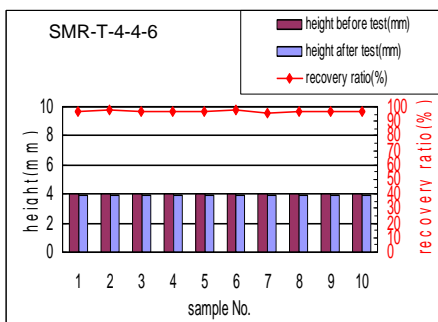
Vertical & Horizontal Resistance

Test when sample is pressed till 10%.

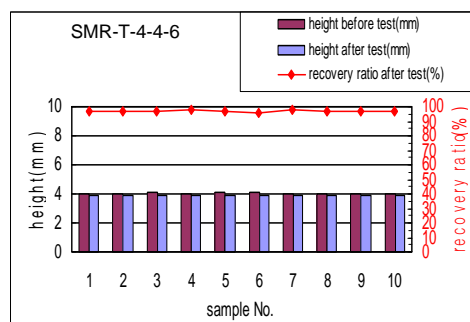


Soldering Strength between PCB & PCB Gasket after SMT

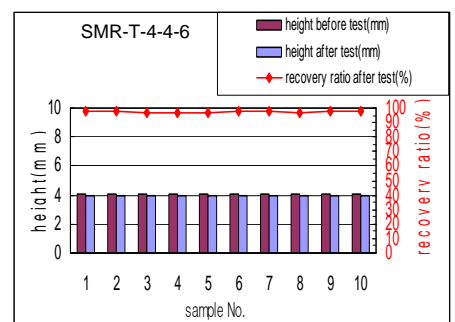
Test the soldering strength after do SMT the PCB Gasket on PCB (Joinset PCB Pattern No. : 2012-C). See below pictures



Recovery ratio after 150°C x 100hr (at 20% compression)



Recovery ratio after -40°C x 100hr (at 20% compression)

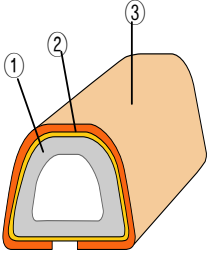
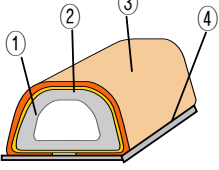
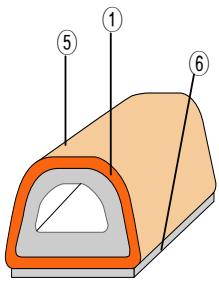
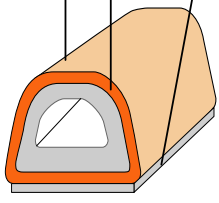
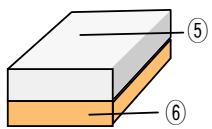
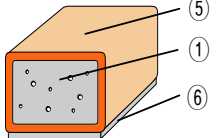


Recovery ratio after 85%RH x 100hr (at 20% compression)

7 How to order & Specification

Halogen Free
UL 94 V-0
EU-RoHS

P/N : JSM - TSS - 2 - 2 - 3
Type Width Height Length

Product Type	Size [mm]			Recommend Height [mm]	Hardness	Structure	Part No.
	Width	Height	Length				
<u>SMR-TS</u>	8	8.5	8	5.1~6.8	Shore A 50	① Elastomer Core ② Elastic Adhesive ③ Conductive PI Film ④ Conductive Tape ⑤ Conductive Elastomer ⑥ Metal Plate 	SMR-TS-8-8.5-8
<u>SMR-TS</u>	6	8.5	8	5.1~6.8			SMR-TS-6-8.5-8
<u>SMR-TS</u>	6	7.5	8	4.5~6.0			SMR-TS-6-7.5-8
<u>SMR-TS</u>	6	6.5	8	3.9~5.2			SMR-TS-6-6.5-8
<u>SMR-TS</u>	6	5	8	3.0~4.0			SMR-TS-6-5-8
<u>SMR-TS</u>	5	4.5	8	2.7~3.6			SMR-TS-5-4.5-8
<u>SMR-TS</u>	4.5	4.5	6	2.7~3.6			SMR-TS-4.5-4.5-6
<u>SMR-TS</u>	5	3.5	4	2.1~2.8			SMR-TS-5-3.5-4
<u>SMR-TS</u>	4	3	5	1.8~2.4			SMR-TS-4-3-5
<u>SMR-TS</u>	4	2.5	5	1.5~2.0			SMR-TS-4-2.5-5
<u>SMR-TS</u>	3	2.5	4	1.5~2.0			SMR-TS-3-2.5-4
<u>SMR-TSA</u>	10	7	8	4.2~5.6	Shore A 50		SMR-TSA-10-7-8
<u>SMR-TSA</u>	10	4	8	2.4~3.2			SMR-TSA-10-4-8
<u>SMR-TSA</u>	3	2.5	3	1.5~2.0			SMR-TA-3-2.5-3
<u>SMR-TSA</u>	3	1.5	3	0.9~1.2			SMR-TSA-3-1.5-3
<u>JSM-TSS</u>	3	2	2	1.0~1.6	Shore A 50		JSM-TSS-3-2-2
<u>JSM-TSS</u>	2	2.5	3	1.3~2.0			JSM-TSS-2-2.5-3
<u>JSM-TSS</u>	2	2	3	1.0~1.6			JSM-TSS-2-2-3
<u>JSM-TSS</u>	2	1.5	3	0.8~1.2			JSM-TSS-2-1.5-3
<u>JSM-TSS</u>	2	1.5	1.25	0.8~1.2			JSM-TSS-2-1.5-1.25
<u>JSM-TS</u>	7	8.5	5	6.8~7.65	Shore A 50		JSM-TS-7-8.5-5
<u>JSM-TS</u>	6	10.5	8	8.4~9.45			JSM-TS-6-10.5-8
<u>JSM-TS</u>	6	9.5	8	7.6~8.55			JSM-TS-6-9.5-8
<u>JSM-TS</u>	5	4.5	4	3.6~4.05			JSM-TS-5-4.5-4
<u>PCBF-S</u>	1.25	1.2	2	0.6~1.0	Shore A 40		PCBF-S-1.25-1.2-2
<u>PCBF-S</u>	1.25	1	2	0.5~0.8			PCBF-S-1.25-1-2
<u>PCBF-S</u>	1.1	0.65	2	0.35~0.5			PCBF-S-1.1-0.65-2
<u>PCBF-S</u>	1.1	0.4	2	0.2~0.32			PCBF-S-1.1-0.4-2
<u>JSM-S</u>	5	4	8	2.4~3.2	Shore C 25		JSM-S-5-4-8
<u>JSM-S</u>	5	4	6	2.4~3.2			JSM-S-5-4-6
<u>JSM-S</u>	4	3	5	1.8~2.4			JSM-S-4-3-5