

Proposal for

CAPACITOR HOLDER

Aluminum electrolytic capacitor holder for horizontal mount
without adhesive

***KGS* KITAGAWA INDUSTRIES CO., LTD.**

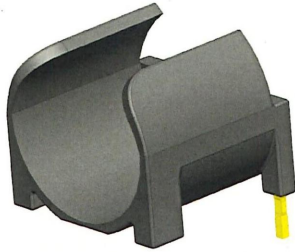
NEW PRODUCT PROMOTION DEPARTMENT

January 2013

CAPACITOR HOLDER line-up

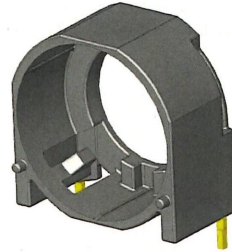


Aluminum electrolytic capacitor holder for horizontal mount without adhesive



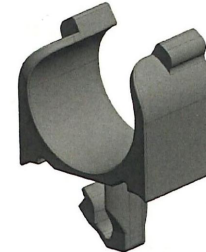
Standard type

Simple one-touch
installation type



Shock proof type

Excellent resistance in
vibration and shock



Snap type

Plastic snap mounting
※Flow soldering not applicable

Upcoming series (Under development)

[Insulating type] Insulation design between capacitor and electric circuit its underneath.

[Spacing type] Saving space between capacitor and PCB. Another devices can be mounted under the capacitor.

[Space saving type] Hold capacitor for lowered height.

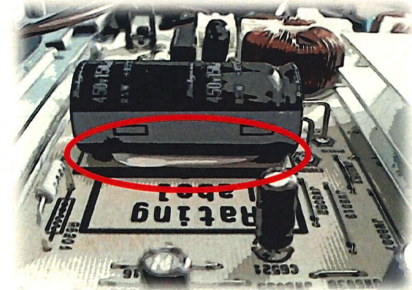
[Centre fixing type] Hold capacitor at its middle position.

[Vertical type] Capacitor holder for vertical mounting.

Adhesive is required to mount aluminum electrolytic capacitor in horizontal direction in the conventional process.

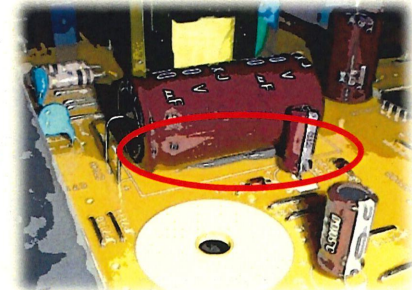
■ Workability

- Additional process for adhesive is required.
- Adhesive application process might be forgotten by mistake.
- Adhesive tends to attach to another parts.
- Long cure time.



■ Siloxane outgas

- Siloxane gas, which is released from silicone base adhesive might cause electrical contact fault.



■ Reliability, Durability

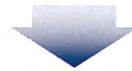
- Peel off caused by shock, vibration and aging.
- Burden to lead of capacitor by adhesive peel off or weak adhesion.

Process and cost for adhesive fixing. (Example)

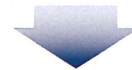


- Adhesive price : JPY8~15/g (Typically ¥1,500/100g)
- Required quantity : 0.6~1.0g/point
- Adhesive price x quantity = Cost for adhesive
: JPY4.8~15/point

(Based upon general price of silicone adhesives and its usage.)



Need long cure time before adhesive are properly fitted.
Capacitor itself might be dislocated before adhesive is cured



Need many process and cost to mount
capacitor in horizontal direction using adhesives.

Feature of CAPACITOR HOLDER (RDHL Series) **KGS**

■ Workability

- Adhesive not required
- Standardisation : No individual differences caused by labourer.
- No cure time stage

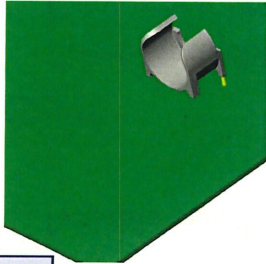
■ Reliability and durability

- No outgas problem which is caused by silicone based adhesive.
- Low thermal conductivity from PCB to Capacitor
- Reliable fixing and installation by soldering.

■ Cost

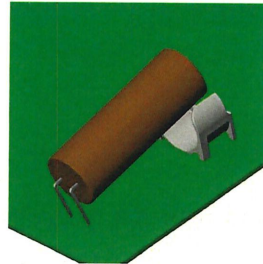
- Shortened labour time
- Easy stock inventory compared to adhesive

■ Standard Type



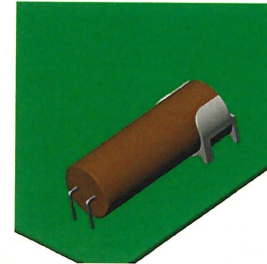
STEP 1

Mount capacitor holder into through-hole



STEP 2

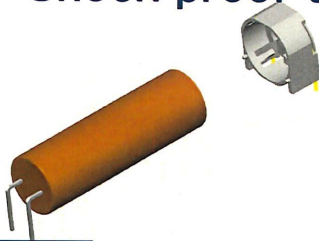
Mount leads of capacitor into through-hole



STEP 3

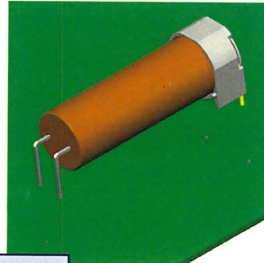
Flow soldering process for installation

■ Shock proof type



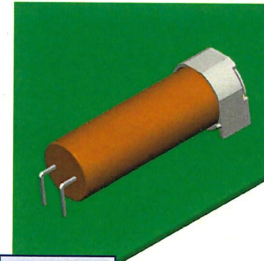
STEP 1

Assemble capacitor together with CAPACITOR HOLDER



STEP 2

Mount into through-hole as assembled



STEP 3

Flow soldering process for installation

■ Vibration and impact properties

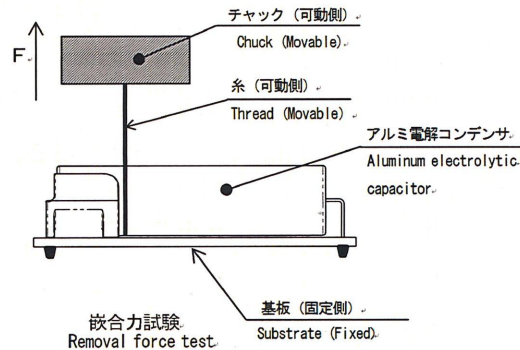
Item	Test method and condition	Results
Vibration	Solder the samples and capacitor onto PCB. Treated under below condition and checked appearance after the test. Acceleration : 88.3m/s ² (9G) Measured frequency : 33Hz Vibration time : X、Y directions, 2 hours each. Z direction, 4 hours Total : 8 hours Number of samples : n=5	Break off : None Drop out : None
Shock/ impact	Solder the samples and capacitor onto PCB. Treated under below condition and checked appearance after the test. Acceleration : 294m/s ² (30G) Pulse width : 11ms Nominal shock pulse : half sine wave Number of shock test : 1 time each X、Y、Z direction Number of samples : n=5	Break off : None Drop off : None

Performance of CAPACITOR HOLDER②

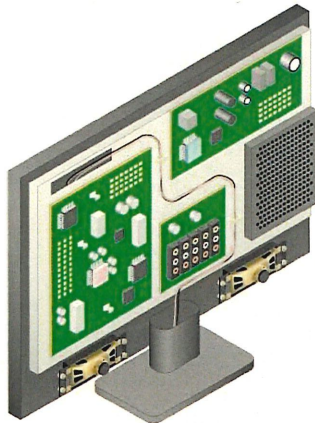
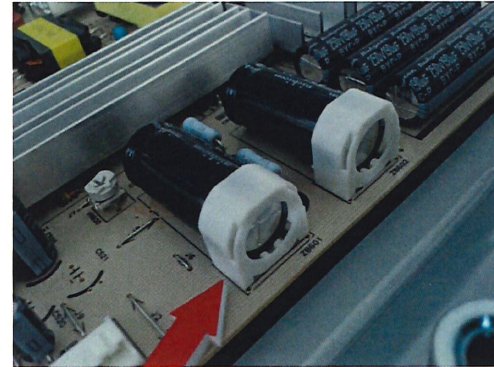
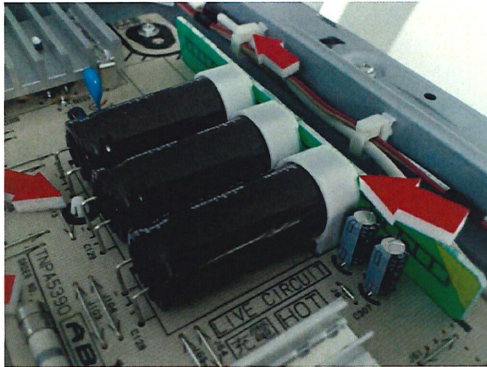


■ Removal force test for capacitor holder

Humidity at resin portion	Test method and condition	Standard type		Shock proof type	Snap type
		RDHL-12.5E	RDHL-18E	RDHL-16	CPHL-6.3S
0%	Refer below method	7.40N	7.25N	97.5N	6.67N
2.5%	Refer below method	2.92N	4.16N	—	3.16N



- TV・Monitor
- Blu—Ray & DVD Player
- Camera, Camcorder
- Home appliance
- Printer, Copy machine
- FA Servo amplifier
- Power conditioner for Solar panel
- Factory Automation
- Automotive ※Need to be discussed before distribution.
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- Applied model: Plasma TV
- Usage portion: Power PCB
- Advantage: Improved workability for mounting capacitor in horizontal direction.