

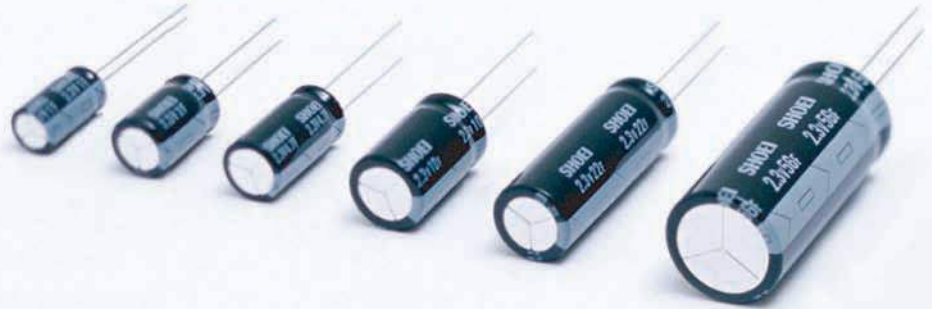
# PAS

## Cylinder type PAS capacitor

A member of TAIYO YUDEN Co., Ltd.

**Shoei Electronics Co., Ltd.**

### P L Y A C E N E C A P A C I T O R S



PAS (Polyacenic Semiconductor), which has been originally developed by Shoei Electronics, is a kind of conductive polymers synthesized through pyrolytic treatment of phenolic resin. PAS capacitors, in which PAS is employed for both positive and negative electrodes, show extremely high performance. PAS capacitors are volume ratio 1/2-1/3 smaller than conventional electric double layer capacitors. In addition, its low internal resistance enables to quick charge and large current discharge. High capacitance type (LA series) is suitable for main power supply of electric accumulator of solar cell, cordless devices and toys. Low ESR type (LR series) is mainly for assistant power supply to lengthen life-time of main power supply and so on.

## Features

### High capacitance

PAS can store a large number of ions into its amorphous structure (doping), therefore PAS capacitor has much larger capacitance than conventional electric double layer capacitors.

### Quick Charge & Discharge

Low internal resistance and quick charge is possible with ampere measure.

### High reliability

Possible to charge/discharge more than 100,000 times with less deterioration caused by charging/discharging compared to secondary battery, which involve chemical reaction, and enable to more than 100,000 times charge/ discharge and large excellence of durability for over charge/discharge.

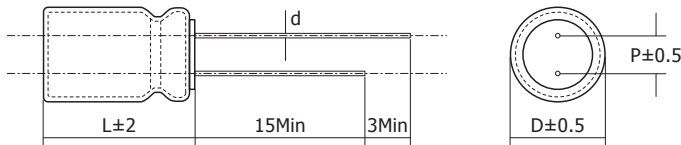
### Environmentally friendly

PAS capacitor is environmentally friendly power source, which does not contain any heavy metals such as Cd and Hg. Moreover does not employ Pb on wire lead. (Lead-free compliant)

## Line-up

	Part Number	Voltage Range (V.DC)	Nominal Capacitance (F)	Internal Resistance (mΩ)	Dimensions (mm)			
					φ D	L	φ d	P
Low ESR type (LR series)	PAS0815LR2R3105	2.3	1	70	8.0	15.0	0.6	3.5
	PAS1016LR2R3205		2	50	10.0	16.0	0.6	5.0
Large Capacitance type (LA series)	PAS1020LA2R3475	2.3	4.7	300	10.0	20.0	0.6	5.0
	PAS1220LA2R3106		10	200	12.5	20.0	0.6	5.0
	PAS1235LA2R3226		22	100	12.5	35.0	0.6	5.0
	PAS1840LA2R3566	56	70	18.0	40.0	0.8	8.0	
	PAS1020LA3R0405	3.0	4	300	10.0	20.0	0.6	5.0
	PAS1220LA3R0905		9	200	12.5	20.0	0.6	5.0
	PAS1235LA3R0206		20	100	12.5	35.0	0.6	5.0
	PAS1840LA3R0506		50	70	18.0	40.0	0.8	8.0

### Dimensions



### Specifications

- Operating Temp. Range : -25~+60°C
- Voltage Range : 2.3V DC / 3.0V DC
- Nominal Capacitance Range : 1~56F
- Capacitance Tolerance : -20~+20%
- Temperature Characteristics : Capacitance Over 70% of initial spec value (-25~+60°C)  
Internal resistance Within 4 times of initial spec value (-25°C)
- High Temp. Load Test : Capacitance Over 70% of initial spec value  
(60°C, Impress Max. operating voltage for 1,000 hours)  
Internal resistance Within 4 times of initial spec value (Same as above)
- Humidity Resistance : Capacitance Over 70% of initial spec value (40°C, 90~95%, 500 hours)  
Characteristics : Internal resistance Within 4 times of initial spec value (Same as above)

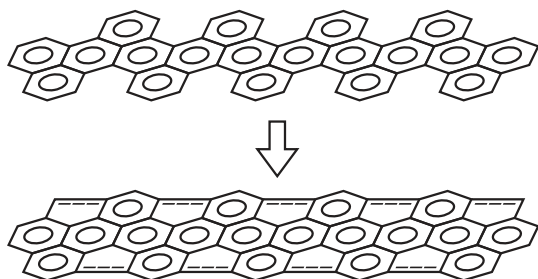
### Applications

- Back-up power source for CPU, microcomputer, and flash memory writing when shut off the power.
- Load change leveling (life lengthening of main power source such as dry battery, Lithium primary battery)
- Storage power source combined with solar cell, fuel cell, generator, and so on.
- Main power source for small devices (toys, measuring equipments and so on).

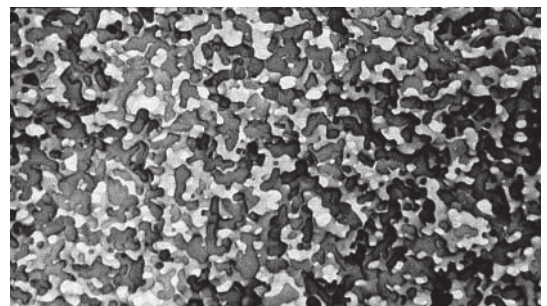
### Examples of Characteristics

Consult with us about other details.

Molecular structure of PAS



SEM image of PAS



## Shoei Electronics Co., Ltd.

< A member of TAIYO YUDEN Co., Ltd. >

URL: <http://www.u-shoei.co.jp/>

#### Headquarters:

587-3 Sumiyoshi, Ueda-shi,  
Nagano, 386-0002 Japan

#### Tokyo Sales Office:

Shoei Dai-2 Nishikicho Bldg. 7F 3-15-2, Kanda-Nishikicho,  
Chiyoda-ku, Tokyo, 101-0054 Japan  
TEL: +81-3-3292-3388 / FAX: +81-3-3292-1070  
E-mail: [cap@u-shoei.co.jp](mailto:cap@u-shoei.co.jp)

#### Osaka Sales Office:

Kawaramachi KT Bldg. 7F  
3-3-7, Kawaramachi, Chuo-ku, Osaka, 541-0048 Japan  
TEL: +81-6-6231-3337 / FAX: +81-6-6231-3339