

# Type PS, Orange Drop®, Polypropylene Film Capacitors

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## Features

- Radial-lead. Non-inductively wound, extended foil construction.
- Long established distribution series.

## Specifications

### Capacitance Range:

.001 to .5  $\mu\text{F}$

### Capacitance Tolerance:

$\pm 10\%$

### Voltage Ratings:

200 to 2000 Volts D-C

140 to 500 Volts A-C

### Operating Temperature Range:

-40°C to +85°C (at full voltage)

### Voltage Derating:

Units rated 200 thru 1000 VDC:

at +105°C, 70% of +85°C rating.

at +125°C, 50% of +85°C rating.

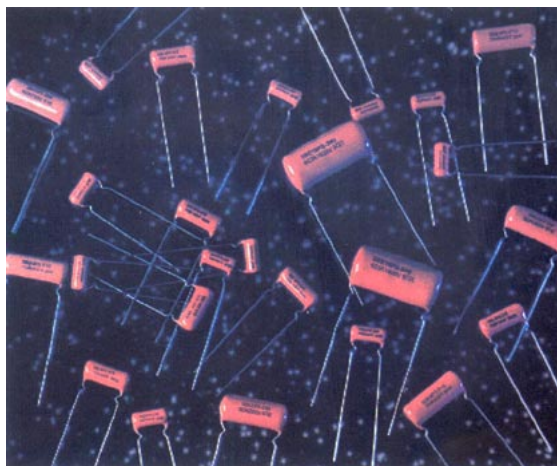
Units rated 1600 and 2000 VDC:

at +105°C, 50% of +85°C rating.

### Lead Wire:

Tinned copper-clad steel.

0.032 (0.8) diameter, #20 AWG



### Insulation Resistance:

At +25°C the minimum product of insulation resistance, expressed in megohms, and capacitance, expressed in microfarads, shall be 5000  $\text{M}\Omega\text{-}\mu\text{F}$

### Dissipation Factor:

Units rated 200 thru 1000 VDC:

0.75% Maximum

Units rated 1600 and 2000 VDC:

0.1% Maximum

### Encapsulation:

Conformal coating of orange, flame retardant epoxy. Meets minimum of UL94V-0 specifications.

### Dielectric/Construction:

Units rated 200 thru 1000 VDC:

Polyester film, single section design, non-inductively wound with extended foil.

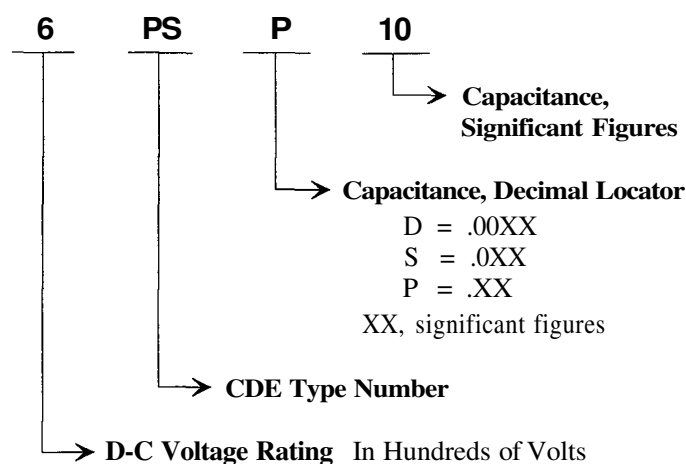
However, the exception is part # 6PSP47 which is a metallized polyester film design.

Units rated 1600 and 2000 VDC:

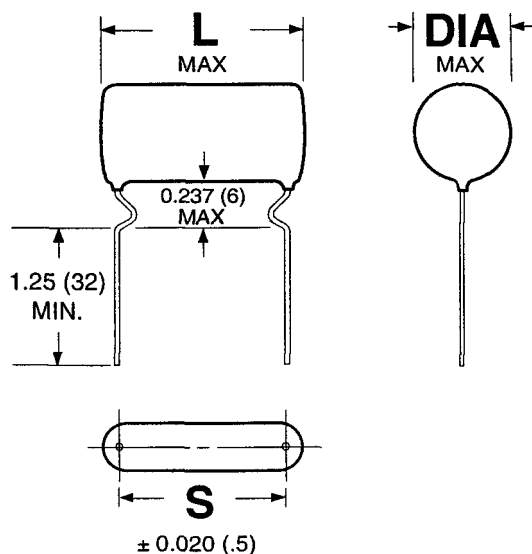
Polypropylene film, non-inductively wound, series section design with extended foil and utilizing a floating common of metallized polypropylene film.

# Type PS, Orange Drop®, Polypropylene Film Capacitors

## Ordering/Part Number Information



## Dimensions



## Standard Marking Format

| Marking       | Description                                    |
|---------------|------------------------------------------------|
| CDE           | CDE Electronics identification                 |
| CDE 6PS-P10   | 6PS-P10 Part number                            |
| 104K600V 9810 | 600V D-C Voltage rating, Volts                 |
|               | 104K Capacitance and EIA tolerance code*       |
|               | 9810 Weekly date code (i.e. 10th week of 1998) |

\* Capacitance code expressed in picofarads, first two digits are the significant figures, the third is the number of zeros following (i.e. 104 = 100000pF = .1  $\mu$ F). EIA tolerance code: K =  $\pm 10\%$ .

Note: The PS series was primarily designed for DC applications. If you require additional technical data or application information for an AC application we suggest you contact us.

# Type PS, Orange Drop®, Polypropylene Film Capacitors

## Type PS Standard Sizes/Ratings

| Value, $\mu$ F            | Part # <sup>1</sup> | L MAX       | DIA MAX    | S            | Value, $\mu$ F            | Part # <sup>1</sup> | L MAX       | DIA MAX        | S            |
|---------------------------|---------------------|-------------|------------|--------------|---------------------------|---------------------|-------------|----------------|--------------|
| <b>200 VDC / 140 VAC*</b> |                     |             |            |              | <b>600 VDC / 200 VAC*</b> |                     |             |                |              |
| .02                       | 2PSS20              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .003                      | 6PSD30              | .70 (17.8)  | .35 (8.9)      | .500 (12.7)  |
| .022                      | 2PSS22              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .0033                     | 6PSD33              | .70 (17.8)  | .35 (8.9)      | .500 (12.7)  |
| .047                      | 2PSS47              | .90 (22.9)  | .38 (9.7)  | .688 (17.5)  | .0039                     | 6PSD39              | .70 (17.8)  | .38 (9.7)      | .500 (12.7)  |
| .05                       | 2PSS50              | .90 (22.9)  | .38 (9.7)  | .688 (17.5)  | .004                      | 6PSD40              | .70 (17.8)  | .38 (9.7)      | .500 (12.7)  |
|                           |                     |             |            |              | .0047                     | 6PSD47              | .70 (17.8)  | .38 (9.7)      | .500 (12.7)  |
| .1                        | 2PSP10              | 1.20 (30.5) | .40 (10.2) | .969 (24.6)  | .005                      | 6PSD50              | .70 (17.8)  | .38 (9.7)      | .500 (12.7)  |
| .15                       | 2PSP15              | 1.20 (30.5) | .45 (11.4) | .969 (24.6)  | .0056                     | 6PSD56              | .70 (17.8)  | .40 (10.2)     | .500 (12.7)  |
| .2                        | 2PSP20              | 1.20 (30.5) | .50 (12.7) | .969 (24.6)  | .006                      | 6PSD60              | .70 (17.8)  | .40 (10.2)     | .500 (12.7)  |
| .22                       | 2PSP22              | 1.20 (30.5) | .50 (12.7) | .969 (24.6)  | .0068                     | 6PSD68              | .70 (17.8)  | .40 (10.2)     | .500 (12.7)  |
| .25                       | 2PSP25              | 1.20 (30.5) | .50 (12.7) | .969 (24.6)  | .0075                     | 6PSD75              | .70 (17.8)  | .40 (10.2)     | .500 (12.7)  |
| .33                       | 2PSP33              | 1.60 (40.6) | .47 (11.9) | 1.344 (34.1) | .008                      | 6PSD80              | .90 (22.9)  | .40 (10.2)     | .688 (17.5)  |
| .47                       | 2PSP47              | 1.60 (40.6) | .55 (14.0) | 1.344 (34.1) | .0082                     | 6PSD82              | .90 (22.9)  | .40 (10.2)     | .688 (17.5)  |
| .5                        | 2PSP50              | 1.60 (40.6) | .55 (14.0) | 1.344 (34.1) | .01                       | 6PSS10              | .90 (22.9)  | .40 (10.2)     | .688 (17.5)  |
| <b>400 VDC / 200 VAC*</b> |                     |             |            |              | .012                      | 6PSS12              | .90 (22.9)  | .40 (10.2)     | .688 (17.5)  |
| .01                       | 4PSS10              | .70 (17.8)  | .35 (8.9)  | .500 (12.7)  | .015                      | 6PSS15              | .90 (22.9)  | .40 (10.2)     | .688 (17.5)  |
| .015                      | 4PSS15              | .70 (17.8)  | .38 (9.7)  | .500 (12.7)  | .02                       | 6PSS20              | .90 (22.9)  | .45 (11.4)     | .688 (17.5)  |
| .02                       | 4PSS20              | .90 (22.9)  | .38 (9.7)  | .688 (17.5)  | .022                      | 6PSS22              | .90 (22.9)  | .45 (11.4)     | .688 (17.5)  |
| .022                      | 4PSS22              | .90 (22.9)  | .38 (9.7)  | .688 (17.5)  | .025                      | 6PSS25              | .90 (22.9)  | .45 (11.4)     | .688 (17.5)  |
| .025                      | 4PSS25              | .90 (22.9)  | .40 (10.2) | .688 (17.5)  | .027                      | 6PSS27              | 1.20 (30.5) | .45 (11.4)     | .969 (24.6)  |
| .03                       | 4PSS30              | .90 (22.9)  | .40 (10.2) | .688 (17.5)  | .03                       | 6PSS30              | 1.20 (30.5) | .45 (11.4)     | .969 (24.6)  |
| .033                      | 4PSS33              | .90 (22.9)  | .40 (10.2) | .688 (17.5)  | .033                      | 6PSS33              | 1.20 (30.5) | .45 (11.4)     | .969 (24.6)  |
| .04                       | 4PSS40              | 1.20 (30.5) | .40 (10.2) | .969 (24.6)  | .035                      | 6PSS35              | 1.20 (30.5) | .45 (11.4)     | .969 (24.6)  |
| .047                      | 4PSS47              | 1.20 (30.5) | .40 (10.2) | .969 (24.6)  | .039                      | 6PSS39              | 1.20 (30.5) | .55 (14.0)     | .969 (24.6)  |
| .05                       | 4PSS50              | 1.20 (30.5) | .40 (10.2) | .969 (24.6)  | .04                       | 6PSS40              | 1.20 (30.5) | .55 (14.0)     | .969 (24.6)  |
| .056                      | 4PSS56              | 1.20 (30.5) | .45 (11.4) | .969 (24.6)  | .047                      | 6PSS47              | 1.20 (30.5) | .55 (14.0)     | .969 (24.6)  |
| .068                      | 4PSS68              | 1.20 (30.5) | .45 (11.4) | .969 (24.6)  | .05                       | 6PSS50              | 1.20 (30.5) | .55 (14.0)     | .969 (24.6)  |
| .075                      | 4PSS75              | 1.20 (30.5) | .45 (11.4) | .969 (24.6)  | .056                      | 6PSS56              | 1.20 (30.5) | .60 (15.2)     | .969 (24.6)  |
| .1                        | 4PSP10              | 1.20 (30.5) | .52 (13.2) | .969 (24.6)  | .06                       | 6PSS60              | 1.20 (30.5) | .60 (15.2)     | .969 (24.6)  |
| .15                       | 4PSP15              | 1.20 (30.5) | .57 (14.5) | .969 (24.6)  | .068                      | 6PSS68              | 1.20 (30.5) | .60 (15.2)     | .969 (24.6)  |
| .2                        | 4PSP20              | 1.60 (40.6) | .60 (15.2) | 1.344 (34.1) | .075                      | 6PSS75              | 1.20 (30.5) | .60 (15.2)     | .969 (24.6)  |
| .22                       | 4PSP22              | 1.60 (40.6) | .60 (15.2) | 1.344 (34.1) | .082                      | 6PSS82              | 1.20 (30.5) | .65 (16.5)     | .969 (24.6)  |
| .25                       | 4PSP25              | 1.60 (40.6) | .65 (16.5) | 1.344 (34.1) | .1                        | 6PSP10              | 1.20 (30.5) | .65 (16.5)     | .969 (24.6)  |
| <b>600 VDC / 200 VAC*</b> |                     |             |            |              | .15                       | 6PSP15              | 1.60 (40.6) | .70 (17.8)     | 1.344 (34.1) |
| .001                      | 6PSD10              | .70 (17.8)  | .30 (7.6)  | .500 (12.7)  | .2                        | 6PSP20              | 1.60 (40.6) | .80 (20.3)     | 1.344 (34.1) |
| .0012                     | 6PSD12              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .22                       | 6PSP22              | 1.60 (40.6) | .80 (20.3)     | 1.344 (34.1) |
| .0015                     | 6PSD15              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .25                       | 6PSP25              | 1.60 (40.6) | .80 (20.3)     | 1.344 (34.1) |
| .0018                     | 6PSD18              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .33                       | 6PSP33              | 1.81 (46.0) | .89 (22.6)     | 1.531 (38.9) |
| .002                      | 6PSD20              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .47                       | 6PSP47              | 1.50 (38.1) | See note below | 1.344 (34.1) |
| .0022                     | 6PSD22              | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  |                           |                     |             |                |              |
| .0025                     | 6PSD25              | .70 (17.8)  | .35 (8.9)  | .500 (12.7)  |                           |                     |             |                |              |
| .0027                     | 6PSD27              | .70 (17.8)  | .35 (8.9)  | .500 (12.7)  |                           |                     |             |                |              |

\* 60 Hz, RMS

<sup>1</sup> Shaded part numbers above are standard stock items available through the Sprague/Vishay Distribution Network. Any other part number may be ordered as a special.

Note: 6PSP47 has a pressed profile, therefore the physical body dimensions are: **T** MAX = .51 (13.0) and **H** MAX = .76 (19.3)

# Type PS, Orange Drop®, Polypropylene Film Capacitors

## Type PS Standard Sizes/Ratings

| Value, $\mu$ F             | Part # <sup>1</sup> | L MAX       | DIA MAX    | S            | Value, $\mu$ F             | Part # <sup>1</sup> | L MAX       | DIA MAX    | S            |
|----------------------------|---------------------|-------------|------------|--------------|----------------------------|---------------------|-------------|------------|--------------|
| <b>1000 VDC / 200 VAC*</b> |                     |             |            |              | <b>1600 VDC / 475 VAC*</b> |                     |             |            |              |
| .001                       | 10PSD10             | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .005                       | 16PSD50             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  |
| .0015                      | 10PSD15             | .70 (17.8)  | .33 (8.4)  | .500 (12.7)  | .006                       | 16PSD60             | 1.30 (33.0) | .55 (14.0) | .969 (24.6)  |
| .002                       | 10PSD20             | .70 (17.8)  | .35 (8.9)  | .500 (12.7)  | .0068                      | 16PSD68             | 1.30 (33.0) | .55 (14.0) | .969 (24.6)  |
| .0022                      | 10PSD22             | .70 (17.8)  | .35 (8.9)  | .500 (12.7)  | .007                       | 16PSD70             | 1.30 (33.0) | .55 (14.0) | .969 (24.6)  |
| .0033                      | 10PSD33             | .90 (22.9)  | .35 (8.9)  | .688 (17.5)  | .0075                      | 16PSD75             | 1.30 (33.0) | .55 (14.0) | .969 (24.6)  |
| .004                       | 10PSD40             | .90 (22.9)  | .40 (10.2) | .688 (17.5)  | .008                       | 16PSD80             | 1.30 (33.0) | .60 (15.2) | .969 (24.6)  |
| .005                       | 10PSD50             | .90 (22.9)  | .40 (10.2) | .688 (17.5)  | .01                        | 16PSS10             | 1.30 (33.0) | .60 (15.2) | .969 (24.6)  |
| .0068                      | 10PSD68             | .90 (22.9)  | .43 (10.9) | .688 (17.5)  | .015                       | 16PSS15             | 1.30 (33.0) | .65 (16.5) | .969 (24.6)  |
| .01                        | 10PSS10             | .90 (22.9)  | .48 (12.2) | .688 (17.5)  | .018                       | 16PSS18             | 1.70 (43.2) | .65 (16.5) | 1.344 (34.1) |
| .015                       | 10PSS15             | 1.20 (30.5) | .48 (12.2) | .969 (24.6)  | .02                        | 16PSS20             | 1.70 (43.2) | .65 (16.5) | 1.344 (34.1) |
| .022                       | 10PSS22             | 1.20 (30.5) | .58 (14.7) | .969 (24.6)  | .022                       | 16PSS22             | 1.70 (43.2) | .65 (16.5) | 1.344 (34.1) |
| .033                       | 10PSS33             | 1.20 (30.5) | .65 (16.5) | .969 (24.6)  | .03                        | 16PSS30             | 1.70 (43.2) | .75 (19.1) | 1.344 (34.1) |
| .039                       | 10PSS39             | 1.60 (40.6) | .65 (16.5) | 1.344 (34.1) | .033                       | 16PSS33             | 1.70 (43.2) | .75 (19.1) | 1.344 (34.1) |
| .047                       | 10PSS47             | 1.60 (40.6) | .65 (16.5) | 1.344 (34.1) | .039                       | 16PSS39             | 1.70 (43.2) | .85 (21.6) | 1.344 (34.1) |
| .056                       | 10PSS56             | 1.60 (40.6) | .75 (19.1) | 1.344 (34.1) | .04                        | 16PSS40             | 1.70 (43.2) | .85 (21.6) | 1.344 (34.1) |
| .068                       | 10PSS68             | 1.60 (40.6) | .75 (19.1) | 1.344 (34.1) | .047                       | 16PSS47             | 1.70 (43.2) | .85 (21.6) | 1.344 (34.1) |
| .1                         | 10PSP10             | 1.60 (40.6) | .85 (21.6) | 1.344 (34.1) | .05                        | 16PSS50             | 1.70 (43.2) | .85 (21.6) | 1.344 (34.1) |
| <b>1600 VDC / 475 VAC*</b> |                     |             |            |              | <b>2000 VDC / 500 VAC*</b> |                     |             |            |              |
| .001                       | 16PSD10             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .001                       | 20PSD10             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  |
| .0015                      | 16PSD15             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0015                      | 20PSD15             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  |
| .002                       | 16PSD20             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0022                      | 20PSD22             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  |
| .0022                      | 16PSD22             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0033                      | 20PSD33             | 1.30 (33.0) | .55 (14.0) | .969 (24.6)  |
| .003                       | 16PSD30             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0047                      | 20PSD47             | 1.30 (33.0) | .60 (15.2) | .969 (24.6)  |
| .0033                      | 16PSD33             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0056                      | 20PSD56             | 1.30 (33.0) | .65 (16.5) | .969 (24.6)  |
| .0039                      | 16PSD39             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0068                      | 20PSD68             | 1.30 (33.0) | .65 (16.5) | .969 (24.6)  |
| .004                       | 16PSD40             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .0082                      | 20PSD82             | 1.30 (33.0) | .70 (17.8) | .969 (24.6)  |
| .0047                      | 16PSD47             | 1.30 (33.0) | .50 (12.7) | .969 (24.6)  | .027                       | 20PSS27             | 1.70 (43.2) | .95 (24.1) | 1.344 (34.1) |

\* 60 Hz, RMS

<sup>1</sup> Shaded part numbers above are standard stock items available through the Sprague/Vishay Distribution Network. Any other part number may be ordered as a special.

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