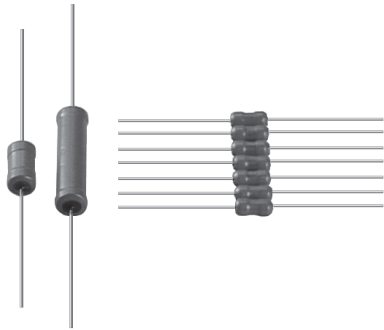


Polyester Film/Foil Capacitors Sleeved, Miniature, Axial Lead



FEATURES

- Axial lead, designed for automatic insertion
- Non-inductively wound, extended foil construction
- Lead wire has metal end cap for connection to extended foil
- Moisture resistant
- Encased in an orange heat shrinkable polyolefin sleeve
- Available tape and reeled to EIA specifications for automatic insertion

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 55°C to + 85°C.

Capacitance Range: 0.0001μF to 0.39μF.

Capacitance Tolerance: ± 20%, ± 10%, ± 5%.
Other tolerances available upon request.

DC Voltage Rating: 80 WVDC to 600 WVDC.

Voltage Derating: At + 105°C: 70% of + 85°C rating.
At + 125°C: 50% of + 85°C rating.

Dissipation Factor: 1.0% maximum.

Voltage Test: 200% of rated voltage for 1 minute.

Insulation Resistance:

- At + 25°C: 100,000 Megohm minimum.
- At + 85°C: 15,000 Megohm minimum.
- At + 105°C: 2000 Megohm minimum.
- At + 125°C: 200 Megohm minimum.

PHYSICAL CHARACTERISTICS

Lead Pull: 5 pounds (2.3 kilograms) for 1 minute.
No physical damage.

Lead Bend: After three complete consecutive bends,
no damage.

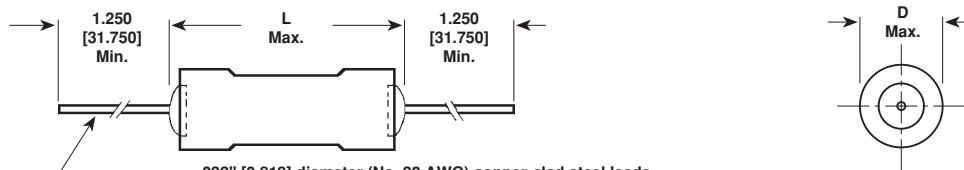
Marking: Sprague[®] trademark, Type 192P, voltage,
capacitance, tolerance and date code.

ENVIRONMENTAL CHARACTERISTICS

DC Life Test: 150% of rated voltage for 250 hours @ + 85°C.
No open or short circuits. No visible damage.
Maximum Δ CAP ± 10%, maximum.
Minimum Δ IR 50% of initial limit, minimum.
Maximum Δ DF 1.0%.

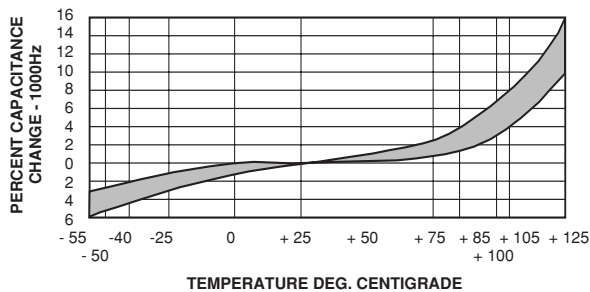
Humidity Test: 95% relative humidity @ + 40°C for 500
hours. No visible damage.
Minimum IR = 50% of initial limit.

DIMENSIONS in inches [millimeters]

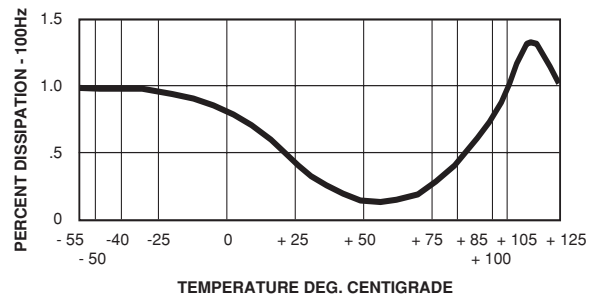


.032" [0.813] diameter (No. 20 AWG) copper-clad steel leads
except that .025" [.635] diameter (No. 22 AWG) leads will be
supplied on .153" [3.886] and .185" [4.699] diameter units.

CAPACITANCE CHANGE



DISSIPATION





| STANDARD RATINGS in inches [millimeters] | | | | |
|-------------------------------------------------|---------------|---------------|----------------|--|
| CAPACITANCE (μ F) | PART NUMBER | D | SIZE | |
| 80 VDC/55 VAC** | | | | |
| | | | L | |
| 0.0022 | 192P222X9080 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0027 | 192P272X9080 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0033 | 192P332X9080 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0039 | 192P392X9080 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0047 | 192P472X9080 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0056 | 192P562X9080 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.0068 | 192P682X9080 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.0082 | 192P822X9080 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.01 | 192P103X9080* | 0.185 [4.699] | 0.500 [12.700] | |
| 0.012 | 192P123X9080 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.015 | 192P153X9080 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.018 | 192P183X9080 | 0.185 [4.699] | 0.625 [15.875] | |
| 0.022 | 192P223X9080* | 0.185 [4.699] | 0.625 [15.875] | |
| 0.027 | 192P273X9080 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.033 | 192P333X9080 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.039 | 192P393X9080 | 0.229 [5.817] | 0.687 [17.450] | |
| 0.047 | 192P473X9080* | 0.229 [5.817] | 0.687 [17.450] | |
| 0.056 | 192P563X9080 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.068 | 192P683X9080 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.082 | 192P823X9080 | 0.315 [8.00] | 0.645 [16.383] | |
| 0.10 | 192P104X9080* | 0.315 [8.00] | 0.645 [16.383] | |
| 0.12 | 192P124X9080 | 0.315 [8.00] | 0.770 [19.558] | |
| 0.15 | 192P154X9080 | 0.315 [8.00] | 0.770 [19.558] | |
| 0.18 | 192P184X9080 | 0.343 [8.712] | 0.770 [19.558] | |
| 0.22 | 192P224X9080 | 0.343 [8.712] | 0.770 [19.558] | |
| 0.27 | 192P274X9080 | 0.343 [8.712] | 1.020 [25.908] | |
| 0.33 | 192P334X9080 | 0.343 [8.712] | 1.332 [33.833] | |
| 0.39 | 192P394X9080 | 0.343 [8.712] | 1.332 [33.833] | |
| 200 VDC/140 VAC** | | | | |
| 0.00010 | 192P101X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00012 | 192P121X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00015 | 192P151X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00018 | 192P181X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00022 | 192P221X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00027 | 192P271X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00033 | 192P331X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00039 | 192P391X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00047 | 192P471X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00056 | 192P561X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00068 | 192P681X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.00082 | 192P821X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.001 | 192P102X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0012 | 192P122X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0015 | 192P152X9200 | 0.153 [3.886] | 0.437 [11.100] | |
| 0.0018 | 192P182X9200 | 0.185 [4.699] | 0.437 [11.100] | |
| 0.0022 | 192P222X9200 | 0.185 [4.699] | 0.437 [11.100] | |
| 0.0027 | 192P272X9200 | 0.185 [4.699] | 0.437 [11.100] | |
| 0.0033 | 192P332X9200 | 0.185 [4.699] | 0.437 [11.100] | |
| 0.0039 | 192P392X9200 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.0047 | 192P472X9200 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.0056 | 192P562X9200 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.0068 | 192P682X9200 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.0082 | 192P822X9200 | 0.185 [4.699] | 0.625 [15.875] | |
| 0.01 | 192P103X9200 | 0.185 [4.699] | 0.625 [15.875] | |

Note: Shaded Part Numbers shown above are standard stock items available through the Vishay/Sprague® Distribution Network. Packaging for these items is bulk, however tape and reel packaging is readily available on special order. Also, any non-standard Part Number may always be ordered as a special. In addition, the four Part Numbers indicated by a * when ordered with a \pm 5% capacitance tolerance (i.e. Part Number 192P103X5080) are also standard stock items.

**60Hz rms.

Pacer® is a registered trademark of Sprague®.



| STANDARD RATINGS in inches [millimeters] | | | | |
|-------------------------------------------------|--------------|---------------|----------------|--|
| CAPACITANCE (μ F) | PART NUMBER | SIZE | | |
| | | D | L | |
| 200 VDC/140 VAC** | | | | |
| 0.012 | 192P123X9200 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.015 | 192P153X9200 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.018 | 192P183X9200 | 0.229 [5.817] | 0.687 [17.450] | |
| 0.022 | 192P223X9200 | 0.229 [5.817] | 0.687 [17.450] | |
| 0.027 | 192P273X9200 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.033 | 192P333X9200 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.039 | 192P393X9200 | 0.315 [8.00] | 0.645 [16.383] | |
| 0.047 | 192P473X9200 | 0.315 [8.00] | 0.645 [16.383] | |
| 0.056 | 192P563X9200 | 0.315 [8.00] | 0.770 [19.558] | |
| 0.068 | 192P683X9200 | 0.315 [8.00] | 0.770 [19.558] | |
| 0.082 | 192P823X9200 | 0.343 [8.712] | 0.770 [19.558] | |
| 0.10 | 192P104X9200 | 0.343 [8.712] | 0.770 [19.558] | |
| 0.12 | 192P124X9200 | 0.343 [8.712] | 1.020 [25.908] | |
| 0.15 | 192P154X9200 | 0.343 [8.712] | 1.020 [25.908] | |
| 0.18 | 192P184X9200 | 0.343 [8.712] | 1.332 [33.833] | |
| 0.22 | 192P224X9200 | | 1.332 [33.833] | |
| 400 VDC/200 VAC** | | | | |
| 0.00047 | 192P471X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.00056 | 192P561X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.00068 | 192P681X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.00082 | 192P821X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.001 | 192P102X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.0012 | 192P122X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.0015 | 192P152X9400 | 0.185 [4.699] | 0.500 [12.700] | |
| 0.0018 | 192P182X9400 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.0022 | 192P222X9400 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.0027 | 192P272X9400 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.0033 | 192P332X9400 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.0039 | 192P392X9400 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.0047 | 192P472X9400 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.0056 | 192P562X9400 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.0068 | 192P682X9400 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.0082 | 192P822X9400 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.01 | 192P103X9400 | 0.250 [6.350] | 0.687 [17.450] | |
| 0.012 | 192P123X9400 | 0.315 [8.00] | 0.645 [16.383] | |
| 0.015 | 192P153X9400 | 0.315 [8.00] | 0.645 [16.383] | |
| 0.018 | 192P183X9400 | 0.315 [8.00] | 0.770 [19.558] | |
| 0.022 | 192P223X9400 | 0.315 [8.00] | 0.770 [19.558] | |
| 0.027 | 192P273X9400 | 0.343 [8.712] | 0.770 [19.558] | |
| 0.033 | 192P333X9400 | 0.343 [8.712] | 0.770 [19.558] | |
| 0.039 | 192P393X9400 | 0.343 [8.712] | 1.020 [25.908] | |
| 0.047 | 192P473X9400 | 0.343 [8.712] | 1.020 [25.908] | |
| 0.056 | 192P563X9400 | 0.343 [8.712] | 1.332 [33.833] | |
| 0.068 | 192P683X9400 | 0.343 [8.712] | 1.332 [33.833] | |
| 600 VDC/200 VAC* | | | | |
| 0.00047 | 192P471X9600 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.00056 | 192P561X9600 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.00068 | 192P681X9600 | 0.185 [4.699] | 0.562 [14.275] | |
| 0.00082 | 192P821X9600 | 0.185 [4.699] | 0.625 [15.875] | |
| 0.001 | 192P102X9600 | 0.185 [4.699] | 0.625 [15.875] | |
| 0.0012 | 192P122X9600 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.0015 | 192P152X9600 | 0.229 [5.817] | 0.562 [14.275] | |
| 0.0018 | 192P182X9600 | 0.229 [5.817] | 0.687 [17.450] | |
| 0.0022 | 192P222X9600 | 0.229 [5.817] | 0.687 [17.450] | |

Note: Shaded Part Numbers shown above are standard stock items available through the Vishay/Sprague® Distribution Network. Packaging for these items is bulk, however tape and reel packaging is readily available on special order. Also, any non-standard Part Number may always be ordered as a special.

**60Hz rms.



| STANDARD RATINGS in inches [millimeters] | | | | |
|------------------------------------------|--------------|---------------|--|----------------|
| CAPACITANCE (μ F) | PART NUMBER | SIZE | | |
| | | D | | L |
| 600 VDC/200 VAC* | | | | |
| 0.0027 | 192P272X9600 | 0.250 [6.350] | | 0.687 [17.450] |
| 0.0033 | 192P332X9600 | 0.250 [6.350] | | 0.687 [17.450] |
| 0.0039 | 192P392X9600 | 0.315 [8.00] | | 0.770 [19.558] |
| 0.0047 | 192P472X9600 | 0.315 [8.00] | | 0.770 [19.558] |
| 0.0056 | 192P562X9600 | 0.315 [8.00] | | 0.770 [19.558] |
| 0.0068 | 192P682X9600 | 0.315 [8.00] | | 0.770 [19.558] |
| 0.0082 | 192P822X9600 | 0.343 [8.712] | | 0.770 [19.558] |
| 0.01 | 192P103X9600 | 0.343 [8.712] | | 0.770 [19.558] |
| 0.012 | 192P123X9600 | 0.343 [8.712] | | 1.020 [25.908] |
| 0.015 | 192P153X9600 | 0.343 [8.712] | | 1.020 [25.908] |
| 0.018 | 192P183X9600 | 0.343 [8.712] | | 1.020 [25.908] |
| 0.022 | 192P223X9600 | 0.343 [8.712] | | 1.020 [25.908] |
| 0.027 | 192P273X9600 | 0.343 [8.712] | | 1.332 [33.833] |
| 0.033 | 192P333X9600 | 0.343 [8.712] | | 1.332 [33.833] |

* 60Hz rms.

| STANDARD MARKING FORMAT | | |
|-------------------------|-------------|-----------------------------------|
| SAMPLE MARKING | DESCRIPTION | TOLERANCE CODES PER EIA STANDARDS |
| | | |

| ORDERING INFORMATION | | | | |
|----------------------|--------------------|--------------------------------|--------------------------|------------|
| 192P TYPE | 222 CAPACITANCE | X9 CAPACITANCE TOLERANCE | 200 DC VOLTAGE RATING | T* XXXX |
| | | | | |

| PACKAGING in inches [millimeters] | | |
|------------------------------------------------|-------------------------|-------------------------------|
| IF THE "D" DIMENSION IS: | THEN ADD THE "P" SUFFIX | STANDARD QUANTITY PER REEL ** |
| CLASS I, LEVEL 1, .200" [5.080] PITCH | | |
| 0.153 [3.886] | P303 | 3000 |
| 0.185 [4.699] | P304 | 3000 |
| CLASS II, LEVEL 1, .400" [10.160] PITCH | | |
| 0.229 [5.817] | P305 | 1250 |
| 0.250 [6.350] | P384 | 1000 |
| 0.315 [8.00] | P347 | 1000 |
| 0.343 [8.712] | P347 | 750 |

** Specific quantities can be tape and reeled per EIA Standard RS-296-D. The 192P Pacer® is available in bulk pack or tape and reeled per EIA Standard RS-296-D. A suffix is not required for bulk packaging.



Notice

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