

## TYPE: PPN

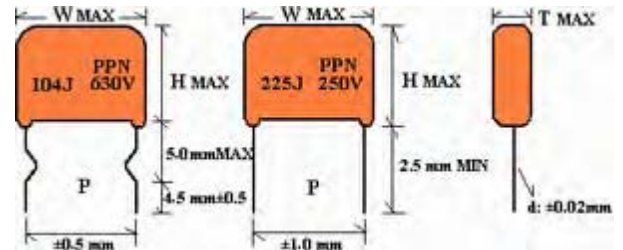
Are constructed with polypropylene film dielectric aluminum foil as electrode, copper-ply wire leads and epoxy resin coating, in non-inductive type.

### FEATURES:

- Low dissipation factor and high insulation resistance.
- Electrode and lead are spot welded, equivalent series resistance(ESR)is minimized.
- High stability of capacitance and DF versus temperature and frequency.
- High moisture resistance.
- Good solderability.
- Available on tape and reel for automatic insertion.

### APPLICATIONS:

They are ideal for telecommunication equipments, data processing equipments, industrial instruments, automatic control systems and other general electronic equipments.



### SPECIFICATION:

- Operating temperature : -40°C ~ +85°C
- Capacitance range : .001uF ~ .47uF
- Capacitance tolerance : J=±5%, K=±10%, M=±20%.
- Rated voltage (RV) : 100, 250, 400, 630VDC.
- Dissipation factor (DF) : .1% max at 1KHz 25°C
- Testing voltage (TV) : 200% of RV for 60sec
- Insulation resistance (IR) : C≤.1uF, IR≥30000Ω  
(measured at RV or 500Vdc C≥.1uF, IR≥3000MΩ. uF whichever is smaller, at 25°C)

### DIMENSIONS:

P≤10mm dφ=0.6  
P>10mm dφ=0.8

| COD | RV     | 100VDC |      |      |      | 250VDC |      |      |      | 400VDC |      |      |      | 630VDC |      |      |      | 800VDC |      |      |      |
|-----|--------|--------|------|------|------|--------|------|------|------|--------|------|------|------|--------|------|------|------|--------|------|------|------|
|     | size   | W      | H    | T    | P    | W      | H    | T    | P    | W      | H    | T    | P    | W      | H    | T    | P    | W      | H    | T    | P    |
|     | cap.   | max    | max  | max  |      | max    | max  | max  |      | max    | max  | max  |      | max    | max  | max  |      | max    | max  | max  |      |
| 561 | .00056 | 10.5   | 8.5  | 5.5  | 7.5  | 10.5   | 8.5  | 5.5  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 12.0 | 7.0  | 10.0 |
| 681 | .00068 | 10.5   | 8.5  | 5.5  | 7.5  | 10.5   | 8.5  | 5.5  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 12.0 | 7.0  | 10.0 |
| 821 | .00082 | 10.5   | 8.5  | 5.5  | 7.5  | 10.5   | 8.5  | 5.5  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 12.0 | 7.0  | 10.0 |
| 911 | .00091 | 10.5   | 8.5  | 5.5  | 7.5  | 10.5   | 8.5  | 5.5  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 12.0 | 7.0  | 10.0 |
| 102 | .001   | 10.5   | 8.5  | 5.5  | 7.5  | 10.5   | 8.5  | 5.5  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 12.0 | 7.0  | 10.0 |
| 152 | .0015  | 10.5   | 9.0  | 6.0  | 7.5  | 10.5   | 9.0  | 6.0  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 12.5 | 7.0  | 10.0 |
| 222 | .0022  | 10.5   | 9.0  | 6.0  | 7.5  | 10.5   | 9.0  | 6.0  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 13.5 | 7.5  | 10.0 |
| 332 | .0033  | 10.5   | 9.0  | 6.0  | 7.5  | 10.5   | 9.0  | 6.0  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 14.5 | 8.5  | 10.0 |
| 472 | .0047  | 10.5   | 9.0  | 6.0  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.0   | 11.0 | 6.0  | 10.0 | 16.0   | 13.0 | 7.5  | 10.0 | 15.0   | 16.0 | 9.5  | 10.0 |
| 682 | .0068  | 10.5   | 9.0  | 6.0  | 7.5  | 15.0   | 11.0 | 6.0  | 10.0 | 15.5   | 11.0 | 6.0  | 10.0 | 17.0   | 14.5 | 8.5  | 10.0 | 15.0   | 18.0 | 11.0 | 10.0 |
| 103 | .010   | 10.5   | 9.0  | 6.0  | 7.5  | 15.5   | 12.0 | 6.0  | 10.0 | 16.5   | 13.0 | 7.5  | 10.0 | 17.0   | 15.5 | 9.0  | 10.0 | 20.0   | 17.0 | 8.0  | 15.0 |
| 153 | .015   | 14.5   | 10.0 | 5.5  | 10.0 | 15.5   | 13.0 | 7.0  | 10.0 | 17.0   | 14.5 | 8.5  | 10.0 | 21.0   | 14.0 | 7.5  | 15.0 | 20.0   | 18.0 | 9.0  | 15.0 |
| 223 | .022   | 14.5   | 11.0 | 6.5  | 10.0 | 16.0   | 14.0 | 8.5  | 10.0 | 21.0   | 13.5 | 8.0  | 15.0 | 21.5   | 16.0 | 9.0  | 15.0 | 20.0   | 20.0 | 11.0 | 15.0 |
| 333 | .033   | 16.5   | 11.0 | 6.5  | 12.5 | 21.0   | 14.0 | 7.5  | 15.0 | 21.0   | 15.5 | 8.5  | 15.0 | 22.0   | 18.0 | 10.0 | 15.0 | 20.0   | 22.0 | 13.0 | 15.0 |
| 473 | .047   | 16.5   | 12.5 | 7.5  | 12.5 | 21.5   | 15.0 | 9.0  | 15.0 | 22.0   | 16.5 | 10.0 | 15.0 | 22.0   | 20.5 | 12.0 | 15.0 | 20.0   | 25.0 | 15.0 | 15.0 |
| 683 | .068   | 16.5   | 14.5 | 9.0  | 12.5 | 21.5   | 16.5 | 10.0 | 15.0 | 27.0   | 18.0 | 10.0 | 20.0 | 27.0   | 20.5 | 12.0 | 20.0 | 3.0    | 23.0 | 14.5 | 25.0 |
| 104 | .10    | 20.0   | 14.5 | 9.0  | 15.0 | 27.0   | 17.5 | 10.0 | 20.0 | 27.0   | 20.0 | 11.5 | 20.0 | 33.0   | 20.5 | 12.0 | 25.0 | 32.0   | 30.0 | 17.0 | 25.0 |
| 154 | .15    | 20.0   | 16.5 | 9.5  | 15.0 | 27.0   | 20.0 | 12.0 | 20.0 | 33.0   | 21.5 | 11.0 | 25.0 | 33.0   | 24.5 | 13.0 | 25.0 |        |      |      |      |
| 224 | .22    | 26.0   | 20.0 | 9.0  | 20.0 | 33.0   | 22.0 | 12.0 | 25.0 | 33.0   | 23.5 | 13.0 | 25.0 | 33.0   | 28.5 | 16.0 | 25.0 |        |      |      |      |
| 334 | .33    | 26.0   | 22.0 | 10.5 | 20.0 | 33.0   | 24.0 | 13.0 | 25.0 | 33.0   | 28.0 | 15.5 | 25.0 |        |      |      |      |        |      |      |      |
| 474 | .47    | 32.0   | 19.0 | 11.5 | 20.0 | 33.0   | 27.0 | 16.0 | 25.0 | 33.0   | 31.0 | 18.5 | 25.0 |        |      |      |      |        |      |      |      |

Please contact us for special case or items not listed.

| CAPACITOR TYPE | VOLTAGE CODE | TOLERANCE CODE | CAPACITANCE (PF) | LEAD STYLE | LEAD SPACING |
|----------------|--------------|----------------|------------------|------------|--------------|
| <b>M E F</b>   | <b>4 0 0</b> | <b>K</b>       | <b>1 5 3</b>     | <b>B</b>   | <b>1 0</b>   |

| TYPE  | CODE | RATED VOLTAGE |
|-------|------|---------------|
| MMT   |      |               |
| EM7   | 050  | 50 Vdc        |
| MEF   | 063  | 63 Vdc        |
| DME   | 100  | 100 Vdc       |
| MEM   | 125  | 125 Vdc       |
| MEA   | 160  | 160 Vdc       |
| MET   | 200  | 200 Vdc       |
| MEY   | 250  | 250 Vdc       |
| PEI   | 400  | 400 Vdc       |
| PEN   | 500  | 500 Vdc       |
| MPP   | 600  | 600 Vdc       |
| MPM   | 630  | 630 Vdc       |
| MPT   | 800  | 800 Vdc       |
| MPA   | 102  | 1000 Vdc      |
| MPX1  | 152  | 1500 Vdc      |
| MPX2  | 162  | 1600 Vdc      |
| MY2   | 252  | 2500 Vdc      |
| PPN   | 1AC  | 125 VAC       |
| PPT   | 2AC  | 250 VAC       |
| PPS   | AC   | 275 VAC       |
| X1/Y1 | 3BC  | 300 VAC       |
| X1/Y2 | 3AC  | 310 VAC       |
| AME   | 2CC  | 350 VAC       |
| MEV   | 4AC  | 400 VAC       |
| QPC   | 4BC  | 450 VAC       |
| AMP   |      |               |

| CODE | TOLERANCE |
|------|-----------|
| G    | ±2%       |
| J    | ±5%       |
| K    | ±10%      |
| M    | ±20%      |

| CODE | CAPACITANCE       |
|------|-------------------|
| 102  | 0.001µF 1,000PF   |
| 472  | 0.0047µF 4,700PF  |
| 103  | 0.01µF 10,000PF   |
| 153  | 0.015µF 15,000PF  |
| 334  | 0.33µF 330,000PF  |
| 104  | 0.1µF 100,000PF   |
| 684  | 0.68µF 680,000PF  |
| 105  | 1.0µF 1,000,000PF |
| 475  | 4.7µF 4,700,000PF |
| 186  | 18µF 18,000,000PF |

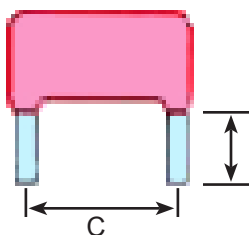
| CODE | RATED VOLTAGE |
|------|---------------|
| 3    | 3.0 mm        |
| 3.5  | 3.5 mm        |
| 4    | 4.0 mm        |
| 5    | 5.0 mm        |
| 6    | 6.0 mm        |
| 7    | 7.0 mm        |
| 7.5  | 7.5 mm        |
| 8    | 8.0 mm        |
| 9    | 9.0 mm        |
| 10   | 10.0 mm       |
| 15   | 15.0 mm       |
| 20   | 20.0 mm       |
| 22.5 | 22.5 mm       |
| 27.5 | 27.5 mm       |

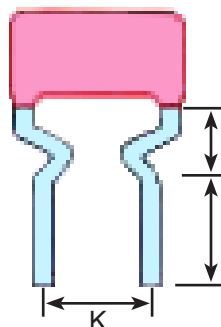
| CODE | LEAD PACKING STYLE   | CODE(7) SPECIFIED AS:      |
|------|--|----------------------------|
| A    | TAPE / AMMO  | LEAD SPACING(P)            |
| B    | STANDARD BULK  | LEAD SPACING (P)           |
| T    | TAPE & REEL<br>STANDARD LEAD SPACING ON TAPED PART IS 5mm<br>SPECIAL 7.5mm AND 10mm SPECIFY LEAD SPACING | NOT APPLICABLE IF STANDARD |
| TA   | AXIAL LEAD TAPING  | NOT APPLICABLE             |
| C    | CUTTING BULK<br>NOTE LEAD SPACING IS PART OF THE DESCRIPTION   | LEAD LENGHT                |
| F    | FORMING BULK   | LEAD SPACING (P)           |
| K    | KINKED BULK  | LEAD SPACING (P)           |
| X    | SPECIAL LEAD CONFIGURATION   | CONSULT FACTORY            |

## FORMING AND CUTTING

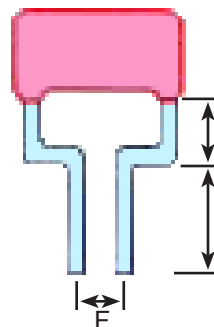
**(A) CUTTING STYLE**



**(B) KINK STYLE**



**(C) FORMING STYLE**



**(D) CUSTOM-MADE**

Technical expertise available to design and produce items of special requirements to customers satisfaction.

(UNITS: mm)