



3mm Surface Mount  
Trimmer Capacitors

**46 Series**

## Product Features

- Low Cost Applications
- Low Temperature Drift
- Designed for reflow soldering
- Low Magnetics
- Surface Mount Design
- Half Turn Adjustment
- Tape & Reel Packaging
- RoHS Compliant

## Product Applications

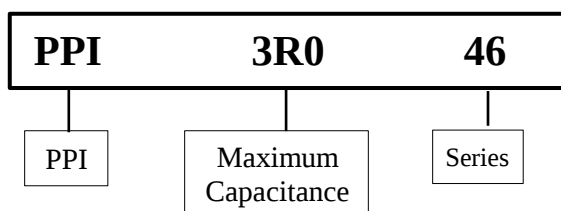
- NMR/ MRI Applications/Pre-Amplifiers
- Commercial Instrumentation
- RFID
- Tunable Filter Circuits

## Specifications

- Capacitance Range: 1.5pF to 40pF
- DC Working Voltage: 125V
- DC Withstanding Voltage: 250V

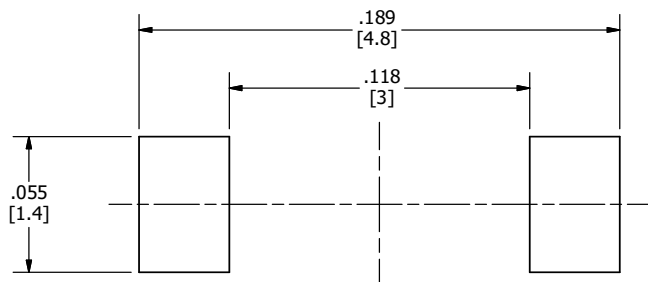


## Part Numbering



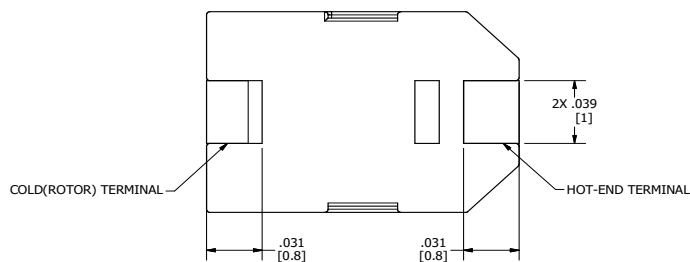
| Part Number                                          |         | PPI3R046                                                      | PPI6R046                           | PPI10046                             | PPI15046                             | PPI20046                             | PPI30046                             | PPI40046                             |
|------------------------------------------------------|---------|---------------------------------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Capacitance (pF)                                     | Minimum | 1.5                                                           | 2.0                                | 2.0                                  | 3.0                                  | 4.5                                  | 5.5                                  | 8.0                                  |
|                                                      | Maximum | 3.0 <sup>+50%</sup> <sub>-0%</sub>                            | 6.0 <sup>+50%</sup> <sub>-0%</sub> | 10.0 <sup>+100%</sup> <sub>-0%</sub> | 15.0 <sup>+100%</sup> <sub>-0%</sub> | 20.0 <sup>+100%</sup> <sub>-0%</sub> | 30.0 <sup>+100%</sup> <sub>-0%</sub> | 40.0 <sup>+100%</sup> <sub>-0%</sub> |
| Marking Color                                        |         | Black                                                         | Blue                               | White                                | Pink                                 | Red                                  | Orange                               | Yellow                               |
| DC Working Voltage                                   |         | 125                                                           | 125                                | 125                                  | 125                                  | 125                                  | 125                                  | 125                                  |
| DC Withstanding Voltage                              |         | 220                                                           | 220                                | 220                                  | 220                                  | 220                                  | 220                                  | 220                                  |
| Temperature Coefficient (ppm/°C)                     |         | 0 ± 200                                                       | 0 ± 300                            | 0 ± 300                              | 0 ± 500                              | 0 ± 500                              | -1500 ± 1000                         | -1500 ± 1000                         |
| Q (min.) at 1 MHz                                    |         | 500                                                           | 500                                | 500                                  | 500                                  | 500                                  | 200                                  | 200                                  |
| Self Resonant Frequency at Maximum Rated Capacitance |         | 2.1 GHz                                                       | 1.5 GHz                            | 1.16 GHz                             | 0.92 GHz                             | 0.81 GHz                             | 0.70 GHz                             | 0.60 GHz                             |
| Insulation Resistance                                |         | 10 <sup>4</sup> megaohms                                      |                                    |                                      |                                      |                                      |                                      |                                      |
| Operating Temperature                                |         | -40°C to +85°C                                                |                                    |                                      |                                      |                                      |                                      |                                      |
| Torque                                               |         | 11 to 72 gf.cm max.   0.14 to 1.0 in-oz max.                  |                                    |                                      |                                      |                                      |                                      |                                      |
| Packaging                                            |         | All parts furnished on 12mm tape and reel; 1,000 pcs per reel |                                    |                                      |                                      |                                      |                                      |                                      |

## Land Pattern Dimensions (inches/mm)

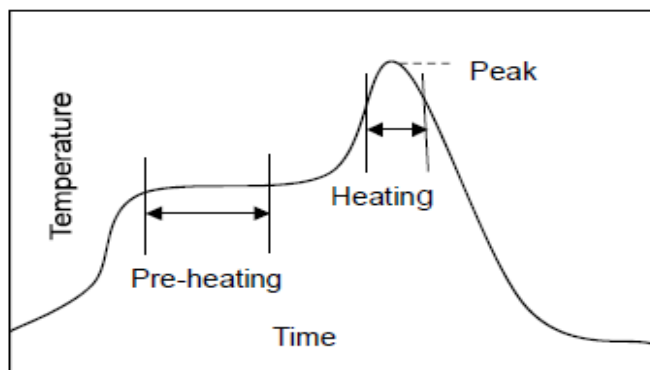


SUGGESTED FOOTPRINT  
SOLDER PASTE THICKNESS OF 0.15 [mm] RECOMMENDED

## Dimensions (inches/mm)

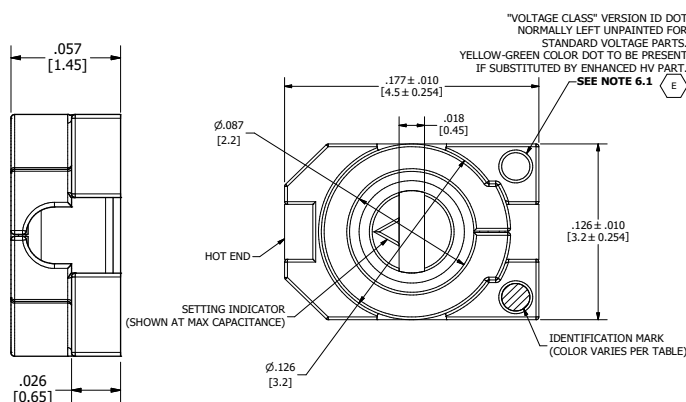


## Suggested Soldering Profile



| Stage                 | SAC305 Solder                                 | Eutectic Solder                               |
|-----------------------|-----------------------------------------------|-----------------------------------------------|
| Pre-Heating           | Temp: 150°C - 180°C<br>Time: 60 - 120 Seconds | Temp: 120°C - 150°C<br>Time: 60 - 120 Seconds |
| Heating               | Temp: 220°C Min<br>Time: 30 - 60 Seconds      | Temp: 183°C Min<br>Time: 30 - 60 Seconds      |
| Peak Heat             | Temp: 265°C<br>Time: 3 Seconds Max            | Temp: 265°C<br>Time: 3 Seconds Max            |
| Reflow Cycles         | 2 Times Max                                   | 2 Times Max                                   |
| <b>Soldering Iron</b> |                                               |                                               |
| Spec                  | Temperature: 400°C Max<br>Time: 3 Seconds Max |                                               |

While PPI makes every effort to provide up to date and complete industry standard information, individual reflow equipment and applications vary. No guarantee is given that the suggested profile is suitable for any application or use.



## 

| Series | Measurement Unit | W     | P0    | P1    | T     | F     | Minimum Qty per Reel | Tape Material |
|--------|------------------|-------|-------|-------|-------|-------|----------------------|---------------|
| 46     | in.              | 0.472 | 0.157 | 0.315 | 0.012 | 0.217 | 1000                 | Plastic       |
|        | mm               | 12.0  | 4.0   | 8.0   | 0.3   | 5.5   |                      |               |

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- Determined by component size. Typical clearance between the cavity and the component is: .50 (.002) min to .65 (.026) max for 12mm tape.
- The component cannot rotate more than 20° within the determined cavity.

