



# PR9477-SERIES

## THIN FILM CURRENT SENSE

PRECISION RESISTIVE PRODUCTS, INC.  
 202 MACK LANE, MEDIAPOLIS, IA 52637  
 (319)394-9131 FAX (319)394-9280  
 E-Mail [info@prpinc.com](mailto:info@prpinc.com)  
 PRP HOME PAGE <http://www.prpinc.com>

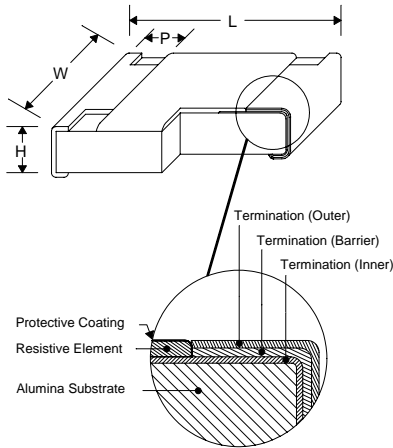
### Features:

- Thin Film
- Standard Industry Case Sizes  
0402, 0603, 0805, 1206, 2010 & 2512
- Power Ratings 1/16W, 1/10W, 1/8W, 1/4W,  
3/4W, 1W & 3W
- Resistance Values from 50mΩ to 999mΩ
- Packaging is Tape & Reel
- Resistance Tolerance ±0.5 & ±1%
- Low TCR ±50 to ±200 PPM/°C

### Applications:

- Voltage Regulation
- Switching Power Supply
- Portable Devices
- Over Current Protection in Audio Application
- Automotive Engine Control
- Power Management

### Dimensions Inches (mm)



| Style       | L                            | W                            | H                            | P                            |
|-------------|------------------------------|------------------------------|------------------------------|------------------------------|
| PR9477 0402 | 0.039 ±0.002<br>(1.00 ±0.05) | 0.020 ±0.002<br>(0.50 ±0.05) | 0.013 ±0.004<br>(0.32 ±0.10) | 0.008 ±0.004<br>(0.20 ±0.10) |
| PR9477 0603 | 0.063 ±0.004<br>(1.6 ±0.10)  | 0.031 ±0.004<br>(0.8 ±0.10)  | 0.018 ±0.004<br>(0.45 ±0.10) | 0.012 ±0.008<br>(0.30 ±0.20) |
| PR9477 0805 | 0.079 ±0.006<br>(2.0 ±0.15)  | 0.049 ±0.006<br>(1.25 ±0.15) | 0.022 ±0.004<br>(0.55 ±0.10) | 0.016 ±0.010<br>(0.40 ±0.25) |
| PR9477 1206 | 0.120 ±0.006<br>(3.05 ±0.15) | 0.061 ±0.006<br>(1.55 ±0.15) | 0.022 ±0.004<br>(0.55 ±0.10) | 0.016 ±0.010<br>(0.40 ±0.25) |
| PR9477 2010 | 0.200 ±0.008<br>(5.00 ±0.20) | 0.096 ±0.006<br>(2.45 ±0.15) | 0.024 ±0.006<br>(0.60 ±0.15) | 0.020 ±0.010<br>(0.50 ±0.25) |
| PR9477 2512 | 0.250 ±0.008<br>(6.35 ±0.20) | 0.124 ±0.006<br>(3.15 ±0.15) | 0.024 ±0.004<br>(0.60 ±0.10) | 0.022 ±0.010<br>(0.55 ±0.25) |

Operating Temperature Range is -55°C to 155°C

### Specifications

| Style       | Wattage | Resistance Range (mΩ) | TCR PPM/°C | Tolerance  |
|-------------|---------|-----------------------|------------|------------|
| PR9477 0402 | 1/16W   | 500 - 999             | ±50, ±100  | ±0.5%, ±1% |
| PR9477 0603 | 1/10W   | 200 - 300             | ±100       | ±0.5%, ±1% |
|             |         | 301 - 999             | ±50        |            |
| PR9477 0805 | 1/8W    | 200 - 300             | ±100       | ±0.5%, ±1% |
|             |         | 301 - 999             | ±50        |            |
| PR9477 1206 | 1/4W    | 50 - 100              | ±200       | ±1%        |
|             |         | 101 - 300             | ±100       |            |
|             |         | 301 - 999             | ±50        |            |
| PR9477 2010 | 3/4W    | 50 - 100              | ±200       | ±0.5%, ±1% |
|             |         | 101 - 300             | ±100       |            |
|             |         | 301 - 999             | ±50        |            |
| PR9477 2512 | 1W      | 50 - 100              | ±200       | ±0.5%, ±1% |
|             |         | 101 - 300             | ±100       |            |
|             |         | 301 - 999             | ±50        |            |
|             | 3W      | 100 - 1000            | ±100       | ±1%        |



DEDICATION TO EXCELLENCE

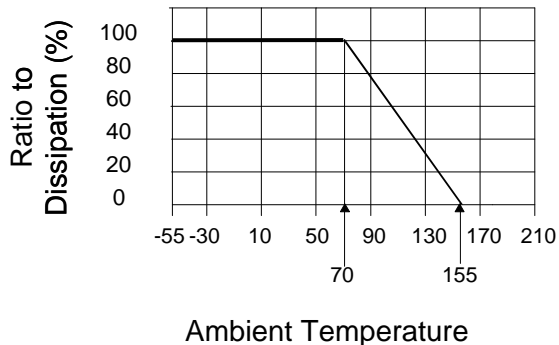
## Performance Data

| Test Item                 | Performance       | Test Method                                                                                                    |
|---------------------------|-------------------|----------------------------------------------------------------------------------------------------------------|
| Load Life                 | ±1%               | <b>MIL-STD-202F Method 108A</b><br>RCWV, 70°C, 1.5 hours ON,<br>0.5 hours OFF, total 1000~1048 hours           |
| Humidity                  | ±0.5%             | <b>MIL-STD-202F Method 103B</b><br>40°C, 90~95% RH, RCWV 1.5 hours ON,<br>0.5 hours OFF, total 1000~1048 hours |
| Thermal Shock             | ±0.5%             | <b>MIL-STD-202F Method 107G</b><br>-55°C~150°C, 100 cycles                                                     |
| Short Time Overload       | ±0.5%             | <b>JIS-C-5202-5.5</b><br>RCWV*2.5 or Max Overload Voltage, 5 sec.                                              |
| Effects of Soldering Heat | ±0.5%             | <b>MIL-STD-202F Method 210E</b><br>260°C ±5°C, 10 ±1 sec.                                                      |
| Solderability             | 95% min. coverage | <b>MIL-STD-202F Method 208H</b><br>245°C ±5°C, 2 ±0.5 sec.                                                     |
| Resistance to Dry Heat    | ±0.5%             | <b>JIS-C-5202-7.2</b><br>96 hours @ +155°C without load                                                        |

Operating Temperature Range is -55°C to + 155°C

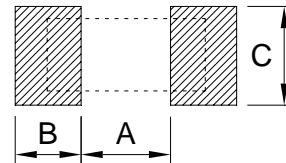
## Derating Curve

For resistors operated in ambient above 70°C, power dissipation must be derated in accordance with curve in the below chart.

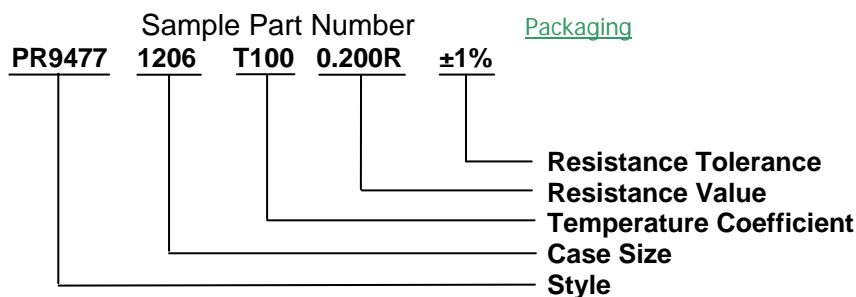


## Pad Dimensions Inches (mm)

| Style       | A               | B               | C                           |
|-------------|-----------------|-----------------|-----------------------------|
| PR9477 0402 | 0.020<br>(0.50) | 0.020<br>(0.50) | 0.024 ±0.008<br>(0.60 ±0.2) |
| PR9477 0603 | 0.031<br>(0.80) | 0.039<br>(1.00) | 0.035 ±0.008<br>(0.90 ±0.2) |
| PR9477 0805 | 0.039<br>(1.00) | 0.039<br>(1.00) | 0.053 ±0.008<br>(1.35 ±0.2) |
| PR9477 1206 | 0.079<br>(2.00) | 0.045<br>(1.15) | 0.067 ±0.008<br>(1.70 ±0.2) |
| PR9477 2010 | 0.142<br>(3.60) | 0.055<br>(1.40) | 0.098 ±0.008<br>(2.50 ±0.2) |
| PR9477 2512 | 0.193<br>(4.90) | 0.063<br>(1.60) | 0.122 ±0.008<br>(3.10 ±0.2) |



## How to Order



Add "T" at the end of the Case Size portion of the part number for lead free termination.