

# POWR-SPEED® Fuse PSR SERIES HIGH-SPEED SQUARE BODY

Semiconductor Fuses • Bolted Blade • 40 A—2000 A



## Description

Littelfuse PSR series high-speed square body fuses are specially designed for protection of power semiconductor devices such as diodes, triacs, IGBTs, SCRs, MOSFETs, and other solid-state devices that are typically designed into power conversion and power conditioning equipment. Variable frequency drives, inverters, UPS, rectifiers, and soft-starters are examples of typical equipment designed with sensitive power semiconductor devices that cannot withstand any line surge or overcurrent conditions and require high-speed protection.

Littelfuse POWR-SPEED® PSR series products offer optimized circuit protection at the extremely fast speed required to protect modern day power conversion devices. Available in bolted blade style termination (typical in North American market) with visual blown fuse indication standard on all fuses and optional micro-switch for external indication.

## Features/Benefits

- Best in class dc performance
- Extremely current limiting
- Superior cycling capability
- Global certification cURus, IEC
- Visual and optional microswitch fuse blown indication
- Low watt-loss design
- Compliance with US and Canadian requirements
- Class aR performance according to IEC60269-4

## Applications

- Power conversion devices (UPS, inverter, rectifiers, drives)
- Dc systems (dc common bus, dc injection braking)
- Battery protection application (energy storage systems)
- Electric vehicle charging stations
- Heaters and power supplies

## Specifications

|                              |                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------|
| <b>Voltage Rating</b>        | Ac: 550 V–1300 V<br>Dc: 480 V–1000 V                                                  |
| <b>Amperage Rating</b>       | 40 A - 2000 A                                                                         |
| <b>Interrupting Rating</b>   | Ac: 100 kA–200 kA<br>Dc: 150 kA                                                       |
| <b>Time Constant</b>         | 10 ms                                                                                 |
| <b>Microswitch</b>           | Yes                                                                                   |
| <b>Mounting</b>              | Bolted blade style                                                                    |
| <b>Material</b>              | Body: ceramic<br>Contacts: plated copper                                              |
| <b>Approvals</b>             | UL 248-13 Recognized (File: E71611)<br>cURus (File: E71611)<br>IEC 60269-4 (Class aR) |
| <b>Environmental</b>         | RoHS Compliant, REACH                                                                 |
| <b>Operating Temperature</b> | -55 °C to +125 °C                                                                     |
| <b>Storage Temperature</b>   | Up to +35 °C with relative humidity <65 %                                             |
| <b>Country of Origin</b>     | Mexico                                                                                |

## Ordering Part Number

|               |     |                                |     |                                                   |    |                 |      |                                   |   |
|---------------|-----|--------------------------------|-----|---------------------------------------------------|----|-----------------|------|-----------------------------------|---|
| <b>Series</b> | PSR | <b>Case Size</b>               | 030 | <b>Termination</b>                                | US | <b>Amperage</b> | 0550 | <b>Packing Quantity</b>           | Z |
|               |     | 30, 31, 32, 33, 70, 71, 72, 73 |     | US = bolted short blade<br>UL = bolted long blade |    |                 |      | X = (1 pc/box)<br>Z = (3 pcs/box) |   |

## Catalog Number

| SERIES | CASE SIZE | TERMINATION | AMPERAGE | CATALOG NUMBER | ORDERING PART NUMBER |
|--------|-----------|-------------|----------|----------------|----------------------|
| PSR    | 030       | US          | 0550     | PSR030US0550   | PSR030US0550Z        |

## Recommended Accessories

**Microswitch:** MS3H1000C (Case Size 30 to 33)  
MS7H1500C (Case Size 70 to 73)

## Web Resources

Download technical documents: [Littelfuse.com/psr](http://Littelfuse.com/psr)

# POWR-SPEED® Fuse

## PSR SERIES HIGH-SPEED SQUARE BODY

### Electrical Characteristics

| CASE SIZE    | CATALOG NUMBER          |                        | AMPERAGE RATING (A) | VOLTAGE RATING (V) |     |        | INTERRUPTING RATING |         | MELTING (PRE-ARC) I²T (A²S) | TOTAL CLEARING I²T (A²S) AT RATED VOLTAGE |         | WATT LOSS AT 100 % RATED CURRENT (W) | AGENCY CERTIFICATION |
|--------------|-------------------------|------------------------|---------------------|--------------------|-----|--------|---------------------|---------|-----------------------------|-------------------------------------------|---------|--------------------------------------|----------------------|
|              | BOLTED SHORT BLADE (US) | BOLTED LONG BLADE (UL) |                     | AC                 |     | DC     | AC                  | DC      |                             | AC                                        | DC      |                                      |                      |
|              |                         |                        |                     | IEC                | UL  |        |                     |         |                             |                                           |         |                                      | cURus                |
| 30           | PSR030US0040            | PSR030UL0040           | 40                  | 690                | 700 | 600    | 200 kA              | 150 kA  | 76                          | 280                                       | 260     | 13                                   | •                    |
|              | PSR030US0050            | PSR030UL0050           | 50                  | 690                | 700 | 600    | 200 kA              | 150 kA  | 110                         | 598                                       | 384     | 16                                   | •                    |
|              | PSR030US0063            | PSR030UL0063           | 63                  | 690                | 700 | 600    | 200 kA              | 150 kA  | 176                         | 1023                                      | 640     | 20                                   | •                    |
|              | PSR030US0080            | PSR030UL0080           | 80                  | 690                | 700 | 600    | 200 kA              | 150 kA  | 304                         | 1728                                      | 1252    | 24                                   | •                    |
|              | PSR030US0100            | PSR030UL0100           | 100                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 437                         | 2835                                      | 1575    | 28                                   | •                    |
|              | PSR030US0125            | PSR030UL0125           | 125                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 707                         | 4684                                      | 2783    | 37                                   | •                    |
|              | PSR030US0160            | PSR030UL0160           | 160                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 1359                        | 9114                                      | 5507    | 40                                   | •                    |
|              | PSR030US0200            | PSR030UL0200           | 200                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 3012                        | 15169                                     | 14700   | 40                                   | •                    |
|              | PSR030US0250            | PSR030UL0250           | 250                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 4668                        | 29952                                     | 20833   | 52                                   | •                    |
|              | PSR030US0315            | PSR030UL0315           | 315                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 7131                        | 61830                                     | 31600   | 64                                   | •                    |
|              | PSR030US0350            | PSR030UL0350           | 350                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 12007                       | 85320                                     | 49273   | 66                                   | •                    |
|              | PSR030US0400            | PSR030UL0400           | 400                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 16209                       | 114750                                    | 63367   | 78                                   | •                    |
|              | PSR030US0450            | PSR030UL0450           | 450                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 23133                       | 160110                                    | 93533   | 80                                   | •                    |
| PSR030US0500 | PSR030UL0500            | 500                    | 690                 | 700                | 600 | 200 kA | 150 kA              | 31429   | 225180                      | 137333                                    | 84      | •                                    |                      |
| PSR030US0550 | PSR030UL0550            | 550                    | 690                 | 700                | 600 | 200 kA | 150 kA              | 44323   | 268920                      | 145400                                    | 85      | •                                    |                      |
| 31           | PSR031US0200            | PSR031UL0200           | 200                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 1965                        | 17334                                     | 16188   | 49                                   | •                    |
|              | PSR031US0250            | PSR031UL0250           | 250                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 3789                        | 35343                                     | 21080   | 52                                   | •                    |
|              | PSR031US0315            | PSR031UL0315           | 315                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 6862                        | 59130                                     | 30694   | 63                                   | •                    |
|              | PSR031US0350            | PSR031UL0350           | 350                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 9523                        | 76140                                     | 40996   | 67                                   | •                    |
|              | PSR031US0400            | PSR031UL0400           | 400                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 14770                       | 124335                                    | 64359   | 70                                   | •                    |
|              | PSR031US0450            | PSR031UL0450           | 450                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 22457                       | 178200                                    | 97444   | 70                                   | •                    |
|              | PSR031US0500            | PSR031UL0500           | 500                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 29751                       | 251505                                    | 125935  | 74                                   | •                    |
|              | PSR031US0550            | PSR031UL0550           | 550                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 42056                       | 289170                                    | 171845  | 86                                   | •                    |
|              | PSR031US0630            | PSR031UL0630           | 630                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 73513                       | 507465                                    | 276315  | 87                                   | •                    |
|              | PSR031US0700            | PSR031UL0700           | 700                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 98187                       | 601425                                    | 337260  | 93                                   | •                    |
| PSR031US0800 | PSR031UL0800            | 800                    | 690                 | 700                | 600 | 200 kA | 150 kA              | 137208  | 848880                      | 502815                                    | 107     | •                                    |                      |
| 32           | PSR032US0400            | PSR032UL0400           | 400                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 11104                       | 79650                                     | 44533   | 87                                   | •                    |
|              | PSR032US0450            | PSR032UL0450           | 450                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 15535                       | 116100                                    | 65463   | 88                                   | •                    |
|              | PSR032US0500            | PSR032UL0500           | 500                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 21573                       | 161460                                    | 88277   | 94                                   | •                    |
|              | PSR032US0550            | PSR032UL0550           | 550                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 26327                       | 177660                                    | 107960  | 106                                  | •                    |
|              | PSR032US0630            | PSR032UL0630           | 630                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 34790                       | 234900                                    | 156963  | 114                                  | •                    |
|              | PSR032US0700            | PSR032UL0700           | 700                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 51191                       | 291870                                    | 209287  | 127                                  | •                    |
|              | PSR032US0800            | PSR032UL0800           | 800                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 60125                       | 472770                                    | 249000  | 152                                  | •                    |
|              | PSR032US0900            | PSR032UL0900           | 900                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 107785                      | 764100                                    | 404000  | 145                                  | •                    |
|              | PSR032US1000            | PSR032UL1000           | 1000                | 690                | 700 | 600    | 200 kA              | 150 kA  | 190102                      | 933120                                    | 672333  | 149                                  | •                    |
| PSR032US1100 | PSR032UL1100            | 1100                   | 690                 | 700                | 600 | 200 kA | 150 kA              | 225379  | 1247400                     | 744000                                    | 161     | •                                    |                      |
| 33           | PSR033US0450            | PSR033UL0450           | 450                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 13600                       | 106380                                    | 58947   | 107                                  | •                    |
|              | PSR033US0500            | PSR033UL0500           | 500                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 16434                       | 140400                                    | 77846   | 107                                  | •                    |
|              | PSR033US0550            | PSR033UL0550           | 550                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 23314                       | 187650                                    | 100461  | 111                                  | •                    |
|              | PSR033US0630            | PSR033UL0630           | 630                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 38727                       | 285930                                    | 142437  | 120                                  | •                    |
|              | PSR033US0700            | PSR033UL0700           | 700                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 56763                       | 392580                                    | 209863  | 116                                  | •                    |
|              | PSR033US0800            | PSR033UL0800           | 800                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 84691                       | 575505                                    | 348500  | 122                                  | •                    |
|              | PSR033US0900            | PSR033UL0900           | 900                 | 690                | 700 | 600    | 200 kA              | 150 kA  | 122619                      | 740340                                    | 451177  | 138                                  | •                    |
|              | PSR033US1000            | PSR033UL1000           | 1000                | 690                | 700 | 600    | 200 kA              | 150 kA  | 222350                      | 1170450                                   | 787750  | 138                                  | •                    |
|              | PSR033US1100            | PSR033UL1100           | 1100                | 690                | 700 | 600    | 200 kA              | 150 kA  | 310824                      | 1568700                                   | 821400  | 138                                  | •                    |
|              | PSR033US1250            | PSR033UL1250           | 1250                | 690                | 700 | 500    | 200 kA              | 150 kA  | 476902                      | 2403000                                   | 1674333 | 145                                  | •                    |
|              | PSR033US1400            | PSR033UL1400           | 1400                | 690                | 700 | 500    | 200 kA              | 150 kA  | 583552                      | 2920050                                   | 1979750 | 173                                  | •                    |
|              | PSR033US1500            | PSR033UL1500           | 1500                | 600                | 650 | 500    | 200 kA              | 150 kA  | 674538                      | 2433200                                   | 1996733 | 182                                  | •                    |
|              | PSR033US1600            | PSR033UL1600           | 1600                | 600                | 650 | 500    | 200 kA              | 150 kA  | 779948                      | 2942800                                   | 2301633 | 208                                  | •                    |
|              | PSR033US1800            | PSR033UL1800           | 1800                | 600                | 650 | 500    | 200 kA              | 150 kA  | 952196                      | 3785040                                   | 2724180 | 260                                  | •                    |
| PSR033US2000 | PSR033UL2000            | 2000                   | 550                 | 600                | 480 | 200 kA | 150 kA              | 1234315 | 4131600                     | 3755180                                   | 264     | •                                    |                      |