

# PSC PROTECTION SEMICONDUCTOR SQUARE BODY FUSES

SOLUTIONS GUIDE

Now manufactured in North America for faster delivery to our North American consumers



FERRAZ SHAWMUT IS NOW MERSEN

**MERSEN**

# PSC Square Body Fuses: Built with speed in mind

Mersen's high-performance Protection Semiconductor (PSC) technology square body fuses are truly *built with speed in mind* from protection to delivery. Mersen PSC semiconductor fuses deliver the ultimate in protection for your power conversion equipment.

Mersen's speed is not only in the performance, but also in the speed it takes to deliver the semiconductor protection you need. We've increased our production capacity by adding new production lines in our Newburyport, USA and Juarez, Mexico facilities. Our PSC fuses are made to order within ten business days\* and direct ship from our production plant to your facility.

What does this mean for you? Over 550 PSC square body fuses in eight different body sizes (Sizes 30, 31, 32, 33, 70, 71, 72, & 73) will be available to ship within two weeks.\* With Mersen, you're guaranteed:

- Fast delivery
- Easy ordering
- Superior protection

## MERSEN

PSC semiconductor square body fuses now with

# Priority Shipping Commitment

Over 550 PSC fuses in eight different body sizes will be available to ship within two weeks.\*

Sizes 30, 31, 32, 33, 70, 71, 72, and 73



# 1250/1300 Volt PSC Square Body

Mersen 1250/1300V PSC square body fuses provide maximum flexibility in equipment design and ultimate protection for today's power conversion equipment. These square body fuses are available in four different body sizes, each size having more than four worldwide acceptable mounting styles. The different mounting styles and body sizes along with a broad range of ampere ratings allow greatest flexibility in equipment design.

Mersen PSC fuses have been engineered to provide state-of-the-art protection for SCRs, diodes, thyristors, GTOs and IGBT devices. They have die-cut elements embedded in solidified sand which helps control arcing characteristics for low  $I^2t$  and high interrupting rating. All contact surfaces are silver plated and all hardware is non-magnetic.

All PSC square body fuses are equipped with a low voltage trip-indicator. This trip-indicator can operate a field mountable microswitch which is easily mounted directly onto the fuse.

## Features/Benefits:

- Choice of mounting styles gives wide choice for equipment design
- Broad range of ampere ratings in a given body size for design flexibility
- UL/CSA/IEC 60269-4 compliance for worldwide semiconductor applications

## Highlights:

- Extremely fast acting
- Current limiting
- Very low  $I^2t$
- Superior cycling ability

## Applications:

- Protection of rectifiers, inverters, DC drives, UPS Systems, reduced voltage motor starters, and other equipment in globally accepted applications



## Ratings:

- Volts** : 650-1300 VAC  
 : DC - Consult Factory
- Amps** : 50-1800A
- I.R.** : 100kA AC

## Approvals:

- UL recognized component File E76491
- IEC 60269-4 certified
- CSA 012636 0 000
- CCC approved



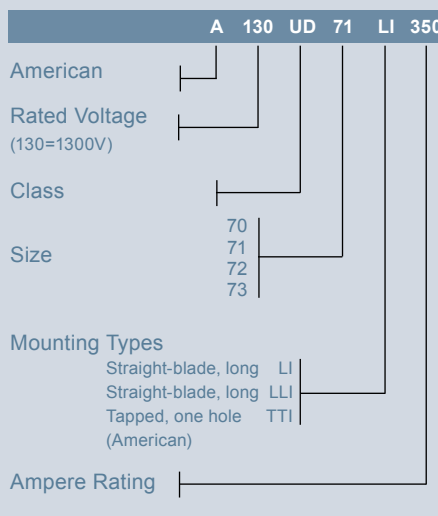
## Catalog Number Designation:

**A070 UD:** North American  
 Mounting Style/Approval  
 Tested @  $V_N$

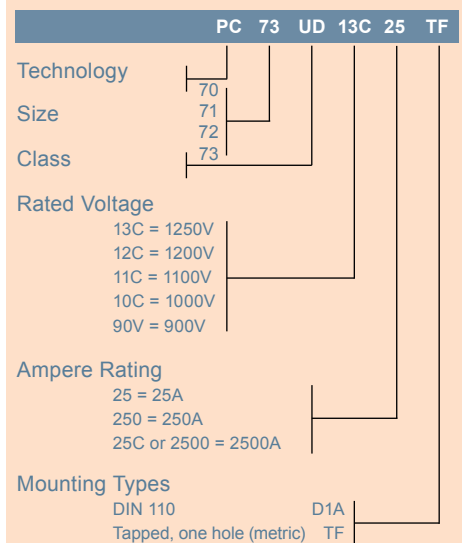
**PC:** European/IEC  
 Mounting Style/Approval  
 Tested @  $1.1 V_N$

\* $V_N$  = rated voltage

### N. American Catalog Numbering System



### European Catalog Numbering System

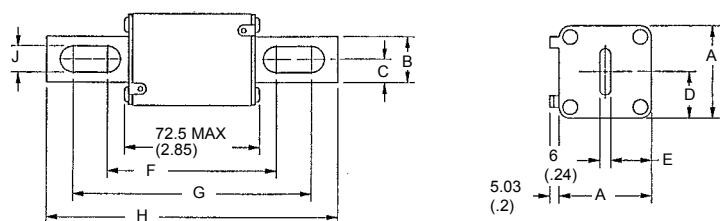


# 1250/1300 Volt PSC Square Body

## North American Straight Blade, Types LI & LLI

| Body Size | Type | Dimensions - mm (in) |              |                |                |                |                |                 |                 |                |
|-----------|------|----------------------|--------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|
|           |      | A                    | B            | C              | D              | E              | F              | G               | H               | J              |
| 70        | LI   | 40<br>(1.57)         | 25<br>(0.98) | 12.5<br>(0.49) | 21<br>(0.83)   | 18<br>(0.71)   | 91.4<br>(3.60) | 130.4<br>(5.13) | 152.4<br>(6.00) | 10.5<br>(0.41) |
| 71        | LLI  | 51<br>(2.01)         | 25<br>(0.98) | 12.5<br>(0.49) | 25.5<br>(1.00) | 22.5<br>(0.89) | 91.4<br>(3.60) | 130.4<br>(5.13) | 152.4<br>(6.00) | 14.6<br>(0.57) |
| 72        | LI   | 60<br>(2.36)         | 32<br>(1.26) | 16<br>(0.63)   | 30<br>(1.18)   | 27<br>(1.06)   | 97.6<br>(3.84) | 132.4<br>(5.2)  | 157.4<br>(6.20) | 14.6<br>(0.57) |
| 73        |      | 74.5<br>(2.93)       | 40<br>(1.57) | 20<br>(0.79)   | 37.2<br>(1.46) | 34.2<br>(1.35) | 98.8<br>(3.89) | 132.4<br>(5.21) | 157.4<br>(6.20) | 15.9<br>(0.63) |

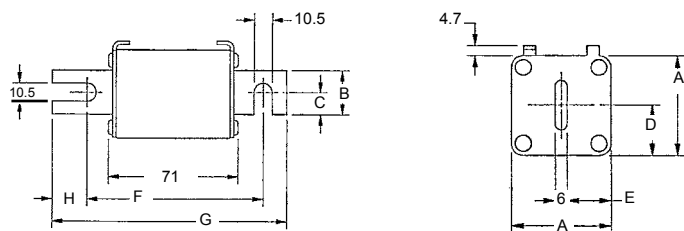
## Outline Dimensions: Types LI and LLI



## European Blade DIN 110, Type D1A

| Body Size | Type    | Dimensions - mm (in) |              |               |                |                 |                 |                 |
|-----------|---------|----------------------|--------------|---------------|----------------|-----------------|-----------------|-----------------|
|           |         | A                    | B            | C             | D              | E               | F               | G               |
| 70        | DIN 110 | 40<br>(1.57)         | 25<br>(.98)  | 12.5<br>(.49) | 21<br>(.83)    | 17<br>(.67)     | 100.4<br>(3.95) | 133.4<br>(5.25) |
| 71        |         | 51<br>(2.01)         | 25<br>(.98)  | 12.5<br>(.49) | 25.5<br>(1.00) | 22.5<br>(.89)   | 100.4<br>(3.95) | 133.4<br>(5.25) |
| 72        |         | 60<br>(2.36)         | 32<br>(1.26) | 16<br>(.63)   | 30<br>(1.18)   | 27<br>(1.06)    | 100.4<br>(3.95) | 133.4<br>(5.25) |
| 73        |         | 74.5<br>(2.93)       | 40<br>(1.57) | 20<br>(.79)   | 37.2<br>(1.46) | 34.25<br>(1.35) | 100.4<br>(3.95) | 133.4<br>(5.25) |

## Outline Dimensions: Type D1A

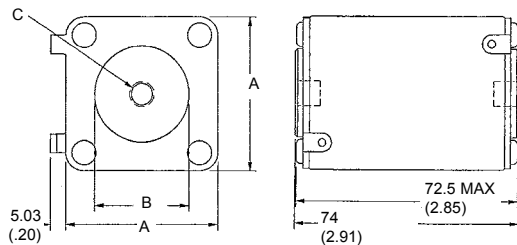


# 1250/1300 Volt PSC Square Body

## 1250/1300 Volt North American and European Tap Single Hole, Type TTI/TTF

| Body Size | Type    | Dimensions - mm/(In) |                | Tapped Hole (N. A.) |                   | Tapped Hole (EURO.) |  |
|-----------|---------|----------------------|----------------|---------------------|-------------------|---------------------|--|
|           |         | A                    | B              | C (TTI)             | D (TTF)           |                     |  |
| 70        | TTI/TTF | 40<br>(1.57)         | 25<br>(1.00)   | 5/16-18 X .23DP     | M8 X 1.25 X 6 DP  |                     |  |
| 71        |         | 50.8<br>(2.00)       | 30.2<br>(1.19) | 5/16-18 X .36DP     | M8 X 1.25 X 9 DP  |                     |  |
| 72        |         | 60.3<br>(2.37)       | 38.1<br>(1.50) | 3/8-16 X .36DP      | M10 X 1.50 X 9 DP |                     |  |
| 73        |         | 74.6<br>(2.94)       | 46<br>(1.81)   | 1/2-13 X .35DP      | M12 X 1.75 X 9 DP |                     |  |

### Types TTI and TTF

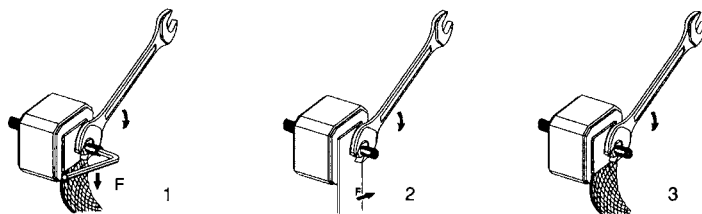


### Standard Threaded Studs

| Size    | Reference No. Per Pair | Ref. and Dimension Per Pair of Studs | Weight (g) | Max Stud Mounting Torque (Nm)* | Max Nut Tightening Torque (Nm)* |        |        |
|---------|------------------------|--------------------------------------|------------|--------------------------------|---------------------------------|--------|--------|
|         |                        |                                      |            |                                | Fig. 1                          | Fig. 2 | Fig. 3 |
| 70 & 71 | S098801                | HC M8 X 30 & M 8 X 35                | 23         | 13                             | 13.5                            | 13.5   | 13.5   |
| 72      | T098802                | HC M 10 X 30 & M 10 X 50             | 40         | 15                             | 26                              | 26     | 26     |
| 73      | V098803                | HC M 12 X 35 & M 12 X 50             | 60         |                                | 46                              | 46     | 15     |
| 2X72    | W098804                | HC M 10 X 50                         | 50         |                                | 26                              | 26     | 26     |
| 2X73    | X098805                | HC M 12 X 50                         | 70         |                                | 46                              | 46     | 15     |

Packaging: 6 pairs

\*in.lbs = Nm/0.113



# 1250/1300 Volt PSC Square Body

## 1250 Volt European/IEC Style Ratings and Application Data, TTF Mounting

| Body Size | Ampere Rating<br>$I_n$ (A) | Rated Voltage<br>$V_n$ (V) (IEC) | Melting I <sup>2</sup> t<br>(A <sup>2</sup> s x 10 <sup>3</sup> ) | Total Clearing I <sup>2</sup> t<br>@ $V_n$<br>(A <sup>2</sup> s x 10 <sup>3</sup> ) | Watts Loss<br>@ $I_n$ (W) | Reference No.   | Catalog No.     | Description      |
|-----------|----------------------------|----------------------------------|---|---|---------------------------|-----------------|-----------------|------------------|
| 70        | 50                         | 1250                             | 0.116   | 0.98  | 16                        | C301095         | PC70UD13C50TF   | 12,5URD70TTF0050 |
|           | 63                         | 1250                             | 0.21  | 1.7   | 26                        | M300483         | PC70UD13C63TF   | 12,5URD70TTF0063 |
|           | 80                         | 1250                             | 0.45  | 3.8   | 27                        | N300484         | PC70UD13C80TF   | 12,5URD70TTF0080 |
|           | 100                        | 1250                             | 0.83  | 7.2   | 30                        | P300485         | PC70UD13C100TF  | 12,5URD70TTF0100 |
|           | 125                        | 1250                             | 1.3   | 11  | 38                        | Q300486         | PC70UD13C125TF  | 12,5URD70TTF0125 |
|           | 160                        | 1250                             | 2.6   | 21  | 45                        | R300487         | PC70UD13C160TF  | 12,5URD70TTF0160 |
|           | 200                        | 1250                             | 4.7   | 38  | 54                        | S300488         | PC70UD13C200TF  | 12,5URD70TTF0200 |
|           | 250                        | 1250                             | 9.6   | 77  | 58                        | T300489         | PC70UD13C250TF  | 12,5URD70TTF0250 |
|           | 280                        | 1200                             | 14  | 107   | 64                        | N300714         | PC70UD12C280TF  | 12URD70TTF0280   |
|           | 315                        | 1200                             | 20  | 149   | 66                        | V300490         | PC70UD12C315TF  | 12URD70TTF0315   |
|           | 350                        | 1100                             | 28  | 180   | 68                        | W300491         | PC70UD11C350TF  | 11URD70TTF0350   |
| 400       | 1100                       | 39                               | 254   | 81  | E300867                   | PC70UD11C400TF  | 11URD70TTF0400  |                  |
| 71        | 160                        | 1250                             | 2.6   | 21  | 46                        | B300749         | PC71UD13C160TF  | 12,5URD71TTF0160 |
|           | 200                        | 1250                             | 4.7   | 38  | 54                        | Z300517         | PC71UD13C200TF  | 12,5URD71TTF0200 |
|           | 250                        | 1250                             | 8.9   | 72  | 61                        | A300518         | PC71UD13C250TF  | 12,5URD71TTF0250 |
|           | 315                        | 1250                             | 16  | 129   | 73                        | B300519         | PC71UD13C315TF  | 12,5URD71TTF0315 |
|           | 350                        | 1250                             | 22  | 178   | 76                        | C300520         | PC71UD13C350TF  | 12,5URD71TTF0350 |
|           | 400                        | 1250                             | 38  | 308   | 76                        | D300521         | PC71UD13C400TF  | 12,5URD71TTF0400 |
|           | 450                        | 1250                             | 47  | 378   | 87                        | E300522         | PC71UD13C450TF  | 12,5URD71TTF0450 |
|           | 500                        | 1100                             | 68  | 441   | 90                        | F300523         | PC71UD11C500TF  | 11URD71TTF0500   |
|           | 550                        | 1100                             | 84  | 548   | 98                        | G300524         | PC71UD11C550TF  | 11URD71TTF0550   |
| 630       | 1100                       | 126                              | 820   | 105   | H300525                   | PC71UD11C630TF  | 11URD71TTF0630  |                  |
| 72        | 280                        | 1250                             | 10  | 85  | 72                        | Y300493         | PC72UD13C280TF  | 12,5URD72TTF0280 |
|           | 315                        | 1250                             | 15  | 125   | 76                        | Z300494         | PC72UD13C315TF  | 12,5URD72TTF0315 |
|           | 350                        | 1250                             | 21  | 170   | 77                        | A300495         | PC72UD13C350TF  | 12,5URD72TTF0350 |
|           | 400                        | 1250                             | 33  | 270   | 80                        | B300496         | PC72UD13C400TF  | 12,5URD72TTF0400 |
|           | 450                        | 1250                             | 44  | 360   | 87                        | C300497         | PC72UD13C450TF  | 12,5URD72TTF0450 |
|           | 500                        | 1250                             | 57  | 465   | 94                        | D300498         | PC72UD13C500TF  | 12,5URD72TTF0500 |
|           | 550                        | 1250                             | 68  | 550   | 110                       | E300499         | PC72UD13C550TF  | 12,5URD72TTF0550 |
|           | 630                        | 1250                             | 105   | 850   | 113                       | F300500         | PC72UD13C630TF  | 12,5URD72TTF0630 |
|           | 700                        | 1100                             | 142   | 920   | 122                       | G300501         | PC72UD11C700TF  | 11URD72TTF0700   |
|           | 800                        | 1100                             | 215   | 1400  | 125                       | H300502         | PC72UD11C800TF  | 11URD72TTF0800   |
|           | 900                        | 1000                             | 312   | 1800  | 130                       | G300869         | PC72UD10C900TF  | 10URD72TTF0900   |
| 1000      | 850                        | -                                | -   | 136   | T301294                   | PC72UD85V1000TF | 8,5URD72TTF1000 |                  |
| 73        | 315                        | 1250                             | 12  | 102   | 84                        | J300503         | PC73UD13C315TF  | 12,5URD73TTF0315 |
|           | 350                        | 1250                             | 17  | 150   | 86                        | K300504         | PC73UD13C350TF  | 12,5URD73TTF0350 |
|           | 400                        | 1250                             | 25  | 203   | 93                        | L300505         | PC73UD13C400TF  | 12,5URD73TTF0400 |
|           | 450                        | 1250                             | 35  | 290   | 99                        | M300506         | PC73UD13C450TF  | 12,5URD73TTF0450 |
|           | 500                        | 1250                             | 44  | 360   | 110                       | N300507         | PC73UD13C500TF  | 12,5URD73TTF0500 |
|           | 550                        | 1250                             | 57  | 465   | 116                       | P300508         | PC73UD13C550TF  | 12,5URD73TTF0550 |
|           | 630                        | 1250                             | 84  | 680   | 125                       | Q300509         | PC73UD13C630TF  | 12,5URD73TTF0630 |
|           | 700                        | 1250                             | 113   | 900   | 135                       | R300510         | PC73UD13C700TF  | 12,5URD73TTF0700 |
|           | 800                        | 1250                             | 190   | 1530  | 136                       | S300511         | PC73UD13C800TF  | 12,5URD73TTF0800 |
|           | 900                        | 1200                             | 250   | 1440  | 150                       | T300512         | PC73UD12C900TF  | 12URD73TTF0900   |
|           | 1000                       | 1000                             | 370   | 2430  | 152                       | V300513         | PC73UD10C1000TF | 10URD73TTF1000   |
|           | 1100                       | 950                              | 445   | 2555  | 168                       | W300514         | PC73UD95V11CTF  | 9,5URD73TTF1100  |
|           | 1250                       | 900                              | 585   | 3080  | 186                       | T300696         | PC73UD90V13CTF  | 9URD73TTF1250    |
|           | 1400                       | 850                              | 755   | 3700  | 210                       | S300718         | PC73UD85V14CTF  | 8,5URD73TTF1400  |
|           | 1600                       | 690                              | 1430  | 5740  | 203                       | B301301         | PC734D69V16CTF  | 6,9URD73TTF1600  |
| 1800      | 600                        | 2040                             | 7150  | 206   | C301302                   | PC73UD60V18CTF  | 6URD73TTF1800   |                  |