

## Three Phase Rectifier Bridge

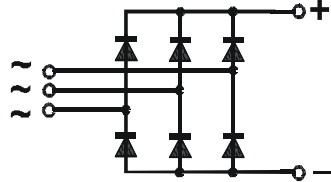
## PSD 63

$$I_{dAV} = 75 \text{ A}$$

$$V_{RRM} = 800-1800 \text{ V}$$

Preliminary Data Sheet

| $V_{RSM}$<br>$V_{DSM}$<br>(V) | $V_{RRM}$<br>$V_{DRM}$<br>(V) | Type      |
|-------------------------------|-------------------------------|-----------|
| 800                           | 800                           | PSD 63/08 |
| 1200                          | 1200                          | PSD 63/12 |
| 1400                          | 1400                          | PSD 63/14 |
| 1600                          | 1600                          | PSD 63/16 |
| 1800                          | 1800                          | PSD 63/18 |



| Symbol        | Test Conditions  | Maximum Ratings               |
|---------------|--|-------------------------------|
| $I_{dAVM}$    | $T_C = 100 \text{ }^\circ\text{C}$ , (per module)            | 75 A                          |
| $I_{FSM}$     | $T_{VJ} = 45 \text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine | 1000 A                        |
|               | $V_R = 0$ t = 8.3 ms (60 Hz), sine                           | 1100 A                        |
|               | $T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine                   | 900 A                         |
|               | $V_R = 0$ t = 8.3 ms (60 Hz), sine                           | 990 A                         |
| $\int i^2 dt$ | $T_{VJ} = 45 \text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine | 5000 A <sup>2</sup> s         |
|               | $V_R = 0$ t = 8.3 ms (60 Hz), sine                           | 5020 A <sup>2</sup> s         |
|               | $T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine                   | 4050 A <sup>2</sup> s         |
|               | $V_R = 0$ t = 8.3 ms (60 Hz), sine                           | 4050 A <sup>2</sup> s         |
| $T_{VJ}$      |  | -40... + 150 $^\circ\text{C}$ |
| $T_{VJM}$     |  | 150 $^\circ\text{C}$          |
| $T_{stg}$     |  | -40... + 150 $^\circ\text{C}$ |
| $V_{ISOL}$    | 50/60 Hz, RMS t = 1 min                                      | 2500 V~                       |
|               | $I_{ISOL} \leq 1 \text{ mA}$ t = 1 s                         | 3000 V~                       |
| $M_d$         | Mounting torque (M5)   | 5 Nm                          |
|               | Terminal connection torque (M5)                              | 5 Nm                          |
| <b>Weight</b> | typ.   | 160 g                         |

### Features

- 
- Package with screw terminals
- Isolation voltage 3000 V~
- Planar glass passivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- UL registered E 148688

### Applications

- Supplies for DC power equipment
- Input rectifier for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

### Advantages

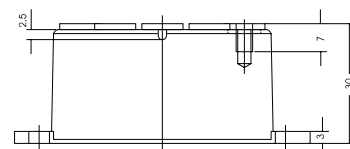
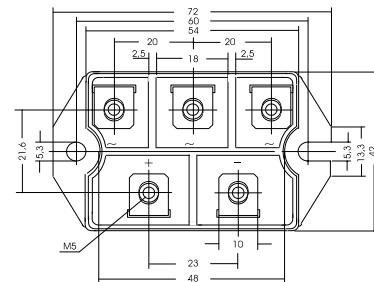
- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability

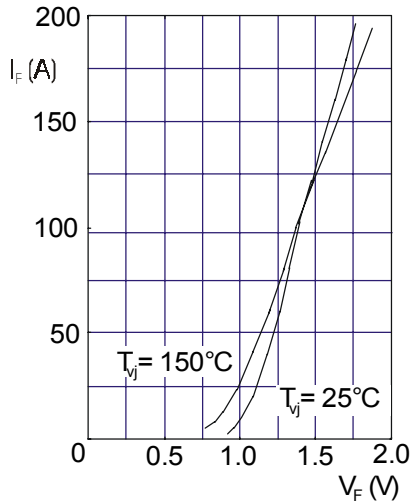
| Symbol     | Test Conditions   | Characteristic Value  |
|------------|---|-----------------------|
| $I_R$      | $V_R = V_{RRM}$ , $T_{VJ} = 25 \text{ }^\circ\text{C}$      | $\leq 0.3 \text{ mA}$ |
|            | $V_R = V_{RRM}$ , $T_{VJ} = T_{VJM}$                        | $\leq 5 \text{ mA}$   |
| $V_F$      | $I_F = 75 \text{ A}$ , $T_{VJ} = 25 \text{ }^\circ\text{C}$ | $\leq 1.3 \text{ V}$  |
| $V_{TO}$   | For power-loss calculations only                            | 0.8 V                 |
| $r_T$      |   | 8 m $\Omega$          |
| $R_{thJC}$ | per diode; DC current                                       | 0.58 K/W              |
|            | per module  | 0.097 K/W             |
| $R_{thJK}$ | per diode; DC current                                       | 0.825 K/W             |
|            | per module  | 0.138 K/W             |
| $d_s$      | Creeping distance on surface                                | 10.0 mm               |
| $d_A$      | Creeping distance in air                                    | 9.4 mm                |
| $a$        | Max. allowable acceleration                                 | 50 m/s <sup>2</sup>   |

Data according to IEC 60747 refer to a single diode unless otherwise stated

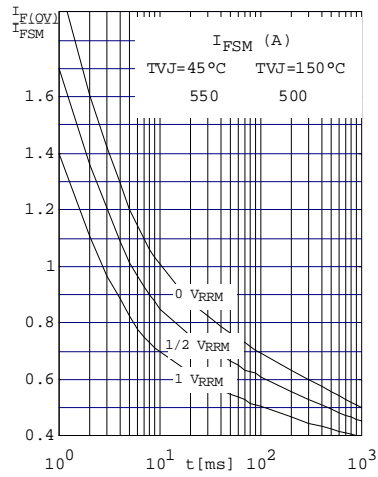
### Package style and outline

Dimensions in mm (1mm = 0.0394")

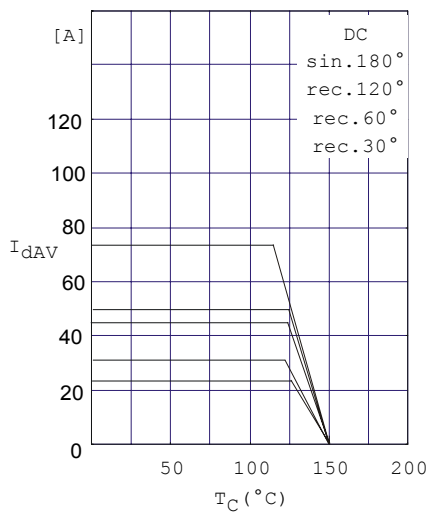




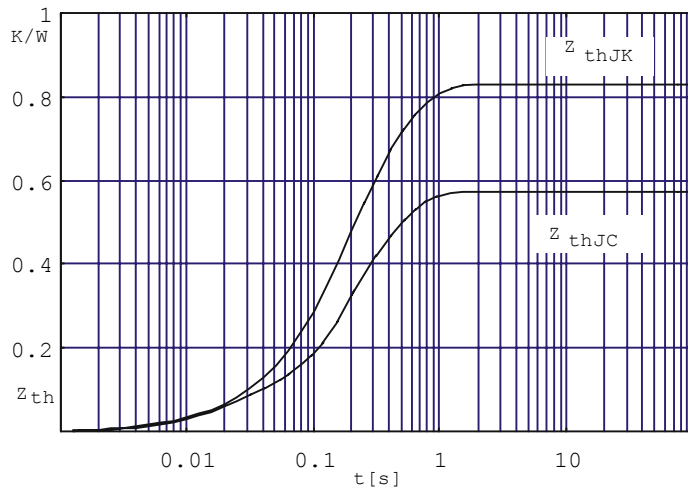
Forward current versus voltage drop per diode



Surge overload current per diode  $I_{FSM}$ : Crest value  
t: duration



Maximum forward current at case temperature



Transient thermal impedance per diode

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