

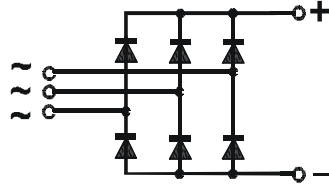
## Three Phase Rectifier Bridge

### PSD 83

$I_{dAV} = 100 \text{ A}$   
 $V_{RRM} = 800-1800 \text{ V}$

Preliminary Data Sheet

$V_{RSM}$ $V_{DSM}$ (V)	$V_{RRM}$ $V_{DRM}$ (V)	Type
800	800	PSD 83/08
1200	1200	PSD 83/12
1400	1400	PSD 83/14
1600	1600	PSD 83/16
1800	1800	PSD 83/18



Symbol	Test Conditions	Maximum Ratings
$I_{dAVM}$	$T_C = 100 \text{ }^\circ\text{C}$ , (per module)	100 A
$I_{FSM}$	$T_{VJ} = 45 \text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine	1200 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	1300 A
	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	1000 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	1100 A
$\int i^2 dt$	$T_{VJ} = 45 \text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine	7200 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	7020 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ 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
$T_{VJ}$		-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
Weight	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

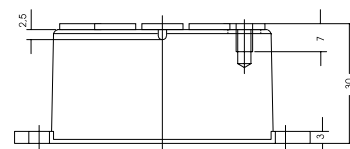
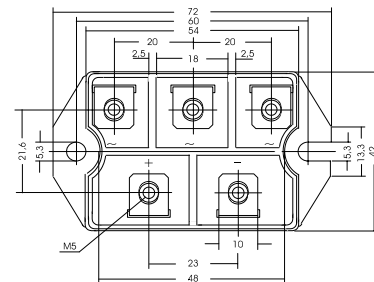
- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability

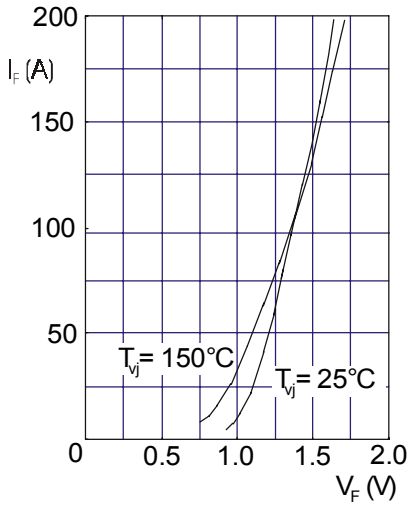
Symbol	Test Conditions	Characteristic Value
$I_R$	$V_R = V_{RRM}$ , $T_{VJ} = 25 \text{ }^\circ\text{C}$	$\leq 0.3 \text{ mA}$
	$V_R = V_{RRM}$ , $T_{VJ} = T_{VJM}$	$\leq 5 \text{ mA}$
$V_F$	$I_F = 100 \text{ A}$ , $T_{VJ} = 25 \text{ }^\circ\text{C}$	$\leq 1.35 \text{ V}$
$V_{TO}$	For power-loss calculations only	0.8 V
$r_T$		5 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

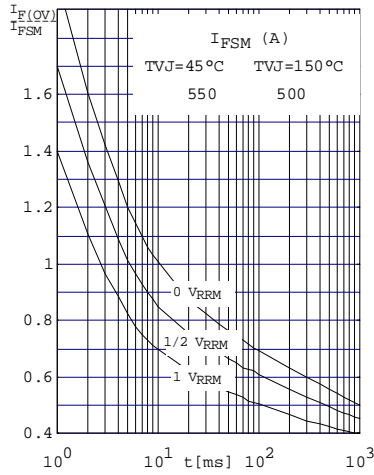
### Package style and outline

Dimensions in mm (1mm = 0.0394")

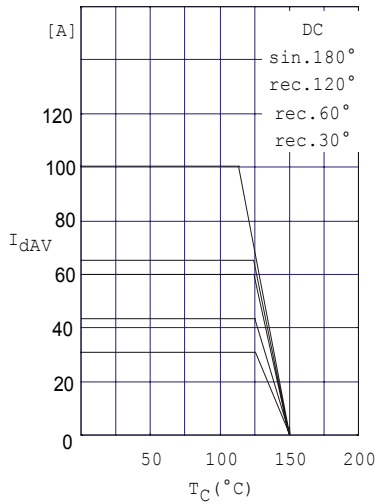




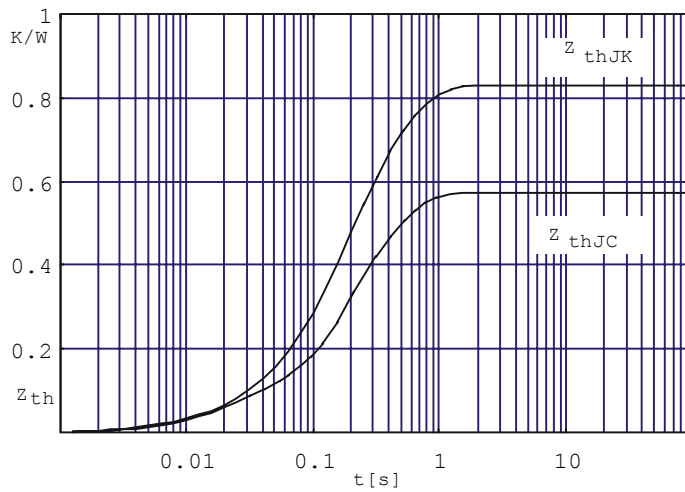
Forward current versus voltage drop per diode



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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