

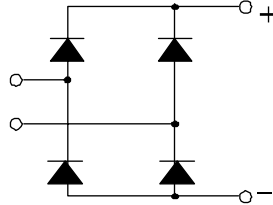
## Single Phase Rectifier Bridges

### PSB 82

$I_{dAVM} = 72A$   
 $V_{RRM} = 800-1800 V$

Preliminary Data Sheet

$V_{RSM}$ V	$V_{RRM}$ V	Type
800	800	PSB 82/08
1200	1200	PSB 82/12
1400	1400	PSB 82/14
1600	1600	PSB 82/16
1800	1800	PSB 82/18



Symbol	Test Conditions	MaXimum Ratings
$I_{dAVM}$	$T_C = 100^\circ C$ , module	72 A
$I_{FSM}$	$T_{VJ} = 45^\circ C$ $V_R = 0$ $t = 10$ ms (50 Hz), sine	750 A
	$t = 8.3$ ms (60 Hz), sine	820 A
	$T_{VJ} = T_{VJM}$ $V_R = 0$ $t = 10$ ms (50 Hz), sine	670 A
	$t = 8.3$ ms (60 Hz), sine	740 A
$\int i^2 dt$	$T_{VJ} = 45^\circ C$ $V_R = 0$ $t = 10$ ms (50 Hz), sine	2800 A <sup>2</sup> s
	$t = 8.3$ ms (60 Hz), sine	2800 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ $V_R = 0$ $t = 10$ ms (50 Hz), sine	2250 A <sup>2</sup> s
	$t = 8.3$ ms (60 Hz), sine	2250 A <sup>2</sup> s
$T_{VJ}$		-40 ... + 150 °C
$T_{VJM}$		150 °C
$T_{stg}$		-40 ... + 150 °C
$V_{ISOL}$	50/60 HZ, RMS $t = 1$ min	2500 V~
	$I_{ISOL} \leq 1$ 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 glasspassivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- UL registered E 148688

### Applications

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

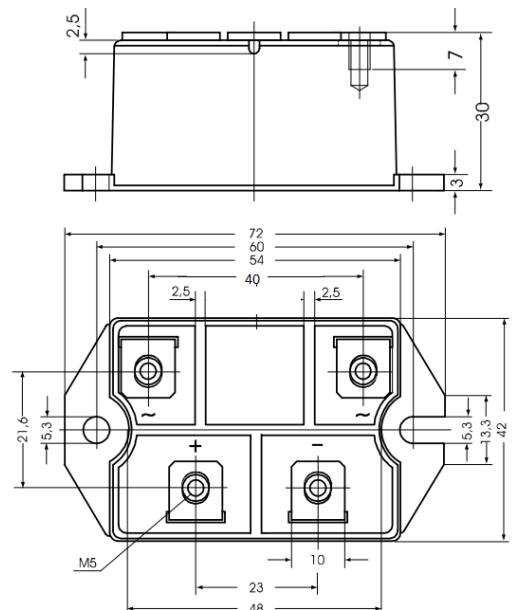
### Advantages

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

### Package, style and outline

Dimensions in mm (1mm = 0.0394")

Symbol	Test Conditions	Characteristic Value
$I_R$	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ C$	$\leq 0.3$ mA
	$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	$\leq 5$ mA
$V_F$	$I_F = 150$ A $T_{VJ} = 25^\circ C$	$\leq 1.6$ V
$V_{TO}$	For power-loss calculations only	0.8 V
$r_T$	$T_{VJ} = T_{VJM}$	5 mΩ
$R_{thJC}$	per Diode; DC current	1.1 K/W
	per module	0.28 K/W
$R_{thJK}$	per Diode; DC current	1.52 K/W
	per module	0.38 K/W
$d_s$	Creeping distance on surface	10 mm
$d_A$	Creeping distance in air	9.4 mm
$a$	Max. allowable acceleration	50 m/s <sup>2</sup>



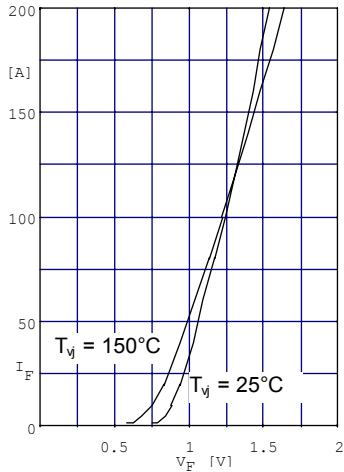


Fig. 1 Forward current versus voltage drop per diode

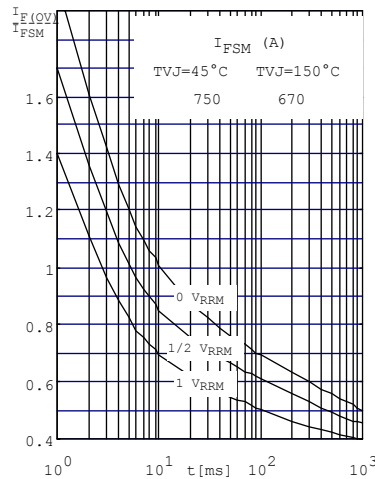


Fig. 2 Surge overload current per diode  $I_{FSM}$ : Crest value.  $t$ : duration

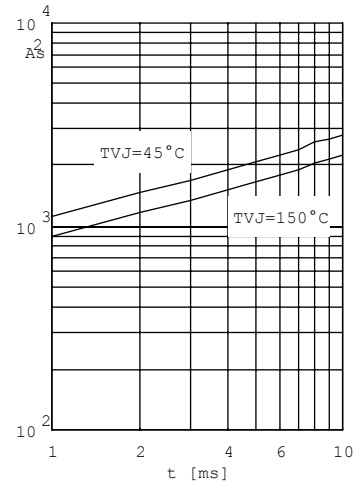


Fig. 3  $\int i^2 dt$  versus time (1-10ms) per diode (or thyristor)

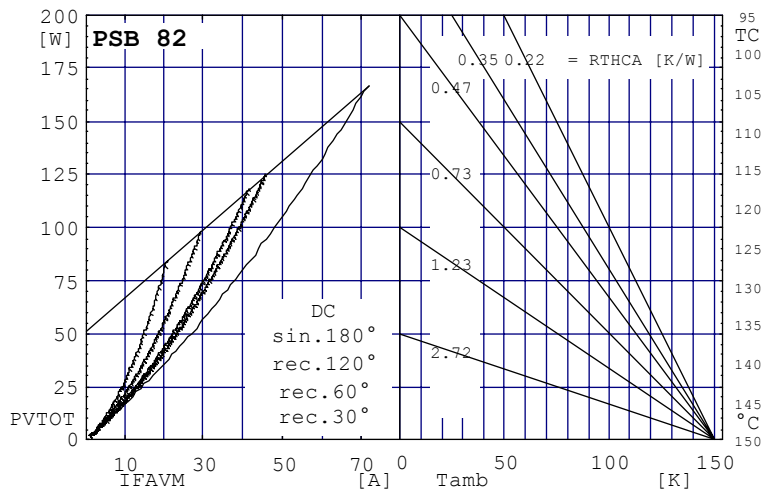


Fig. 4 Power dissipation versus direct output current and ambient temperature

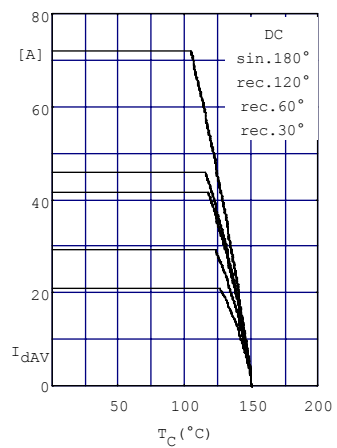


Fig.5 Maximum forward current at case temperature

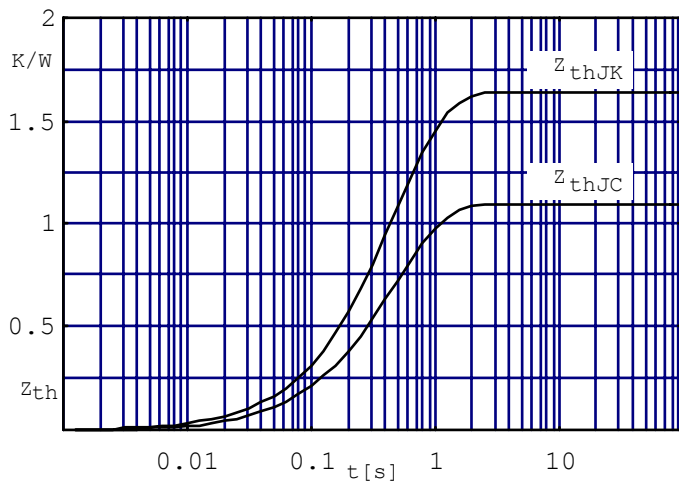


Fig. 6 Transient thermal impedance per diode (or Thyristor), calculated