

Single Phase Rectifier Bridges

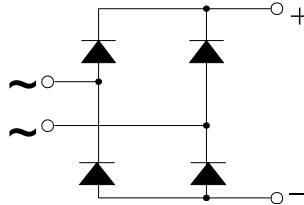
PSB 105

$$\frac{I_{dAVM}}{V_{RRM}}$$

= 107A
= 800-1800 V

Preliminary Data Sheet

V_{RSM} V	V_{RRM} V	Type
800	800	PSB 105/08
1200	1200	PSB 105/12
1400	1400	PSB 105/14
1600	1600	PSB 105/16
1800	1800	PSB 105/18



Symbol	Test Conditions			Maximum Ratings	
I_{dAVM}	T _C = 85°C, module			107	A
I_{FSM}	T _{VJ} = 45°C	t = 10 ms	(50 Hz), sine	1500	A
	V _R = 0	t = 8.3 ms	(60 Hz), sine	1650	A
	T _{VJ} = T _{VJM}	t = 10 ms	(50 Hz), sine	1350	A
	V _R = 0	t = 8.3 ms	(60 Hz), sine	1500	A
∫ i² dt	T _{VJ} = 45°C	t = 10 ms	(50 Hz), sine	11250	A ² s
	V _R = 0	t = 8.3 ms	(60 Hz), sine	11300	A ² s
	T _{VJ} = T _{VJM}	t = 10 ms	(50 Hz), sine	9120	A ² s
	V _R = 0	t = 8.3 ms	(60 Hz), sine	9350	A ² 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} ≤ 1 mA	t = 1 s		3000	V ~
M_d	Mounting torque		(M5)	5	Nm
	Terminal connection torque		(M5)	5	Nm
Weight	typ.			235	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

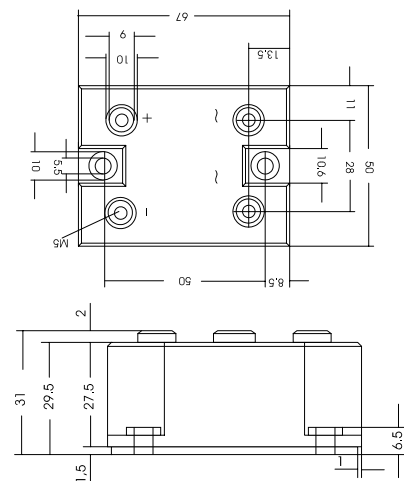
Advantages

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

Package, style and outline

Dimensions in mm (1mm = 0.0394")

Symbol	Test Conditions	Characteristic Value
I_R	$V_R = V_{RRM}$ $T_{VJ} = 25^{\circ}\text{C}$	$\leq$ 0.3 mA
	$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	$\leq$ 8.0 mA
V_F	$I_F = 150\text{ A}$ $T_{VJ} = 25^{\circ}\text{C}$	$\leq$ 1.6 V
V_{TO}	For power-loss calculations only	0.8 V
r_T	$T_{VJ} = T_{VJM}$	5 m Ω
R_{thJC}	per diode; DC current	0.83 K/W
	per module	0.21 K/W
R_{thJK}	per diode; DC current	1.13 K/W
	per module	0.28 K/W
d_S	Creeping distance on surface	17.6 mm
d_A	Creeping distance in air	17.6 mm
a	Max. allowable acceleration	50 m/s ²



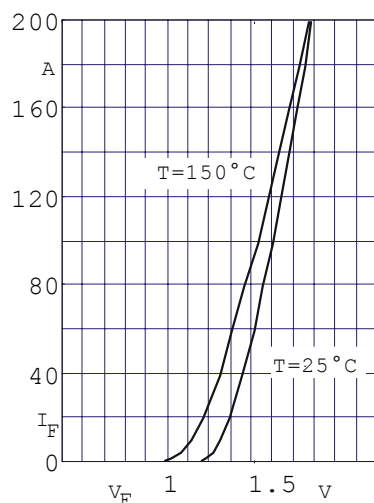


Fig. 1 Forward current versus voltage drop per diode

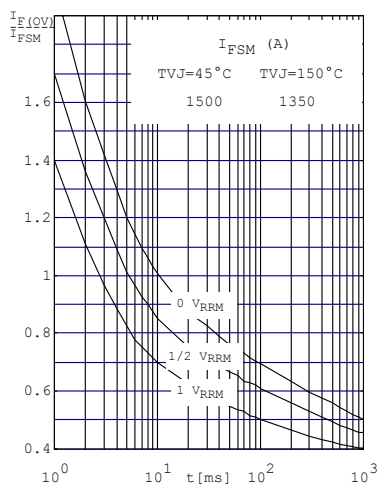


Fig. 2 Surge overload current per diode I_{FSM} : Crest value.
t: duration

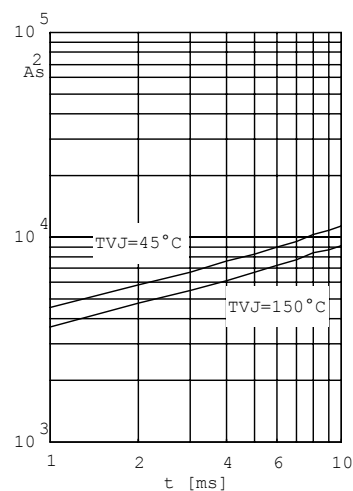


Fig. 3 $\int i^2 dt$ versus time (1-10ms) per diode (or thyristor)

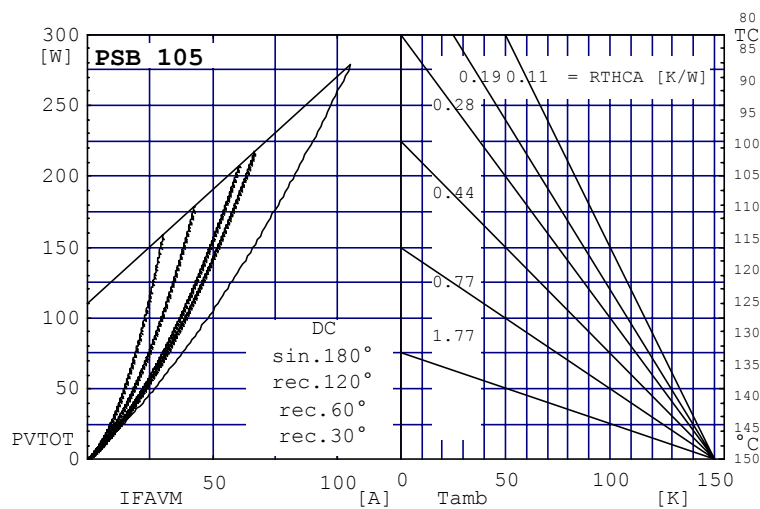


Fig. 4 Power dissipation versus direct output current and ambient temperature

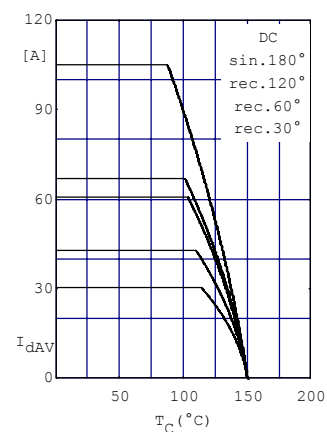


Fig.5 Maximum forward current at case temperature

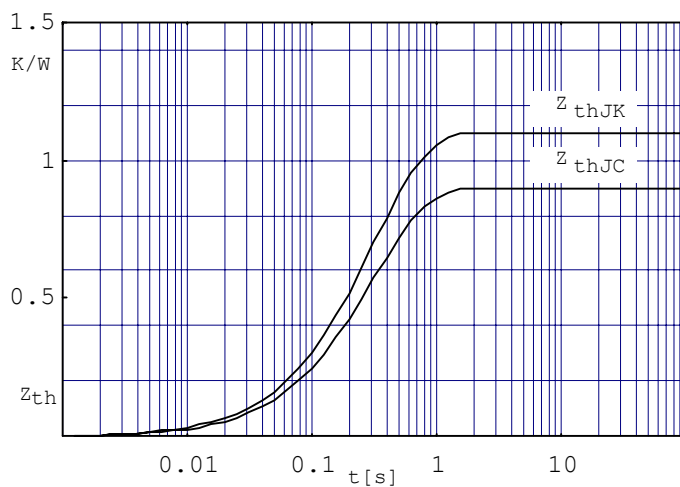


Fig. 6 Transient thermal impedance per diode (or thyristor), calculated