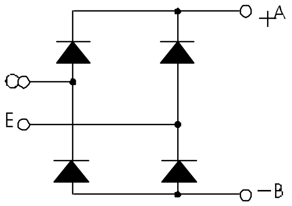
Single Phase Rectifier Bridges

PSB 192

I_{dAVM} = 174 A
V_{RRM} = 800-1800 V

Preliminary Data Sheet

V_{RSM} V	V_{RRM} V	Type
800	800	PSB 192/08
1200	1200	PSB 192/12
1400	1400	PSB 192/14
1600	1600	PSB 192/16
1800	1800	PSB 192/18



Symbol	Test Conditions			Maximum Ratings	
I_{dAV}	T_C = 100°C, module			174	A
I_{FSM}	T_{VJ} = 45°C	t = 10 ms	(50 Hz), sine	2800	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	3300	A
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	2500	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	2750	A
$\int i^2 dt$	T_{VJ} = 45°C	t = 10 ms	(50 Hz), sine	39200	A^2 s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	45000	A^2 s
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	31200	A^2 s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	31200	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 ~
	$I_{ISOL} \leq 1$ mA	t = 1 s		3000	V ~
M_d	Mounting torque		(M6)	5	Nm
	Terminal connection torque		(M6)	5	Nm
Weight	typ.			270	g

Symbol	Test Conditions			Characteristic Value	
I_R	$V_R = V_{RRM}$	T_{VJ} = 25°C	≤	0.3	mA
	$V_R = V_{RRM}$	T_{VJ} = T_{VJM}	≤	5	mA
V_F	I_F = 150 A	T_{VJ} = 25°C	≤	1.43	V
V_{TO}	For power-loss calculations only			0.8	V
r_T	T_{VJ} = T_{VJM}			2.2	mΩ
R_{thJC}	per Diode; DC current			0.45	K/W
	per module			0.11	K/W
R_{thJK}	per Diode; DC current			0.6	K/W
	per module			0.15	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^2

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

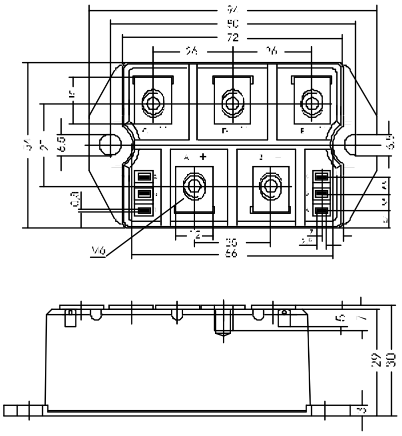
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

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“)



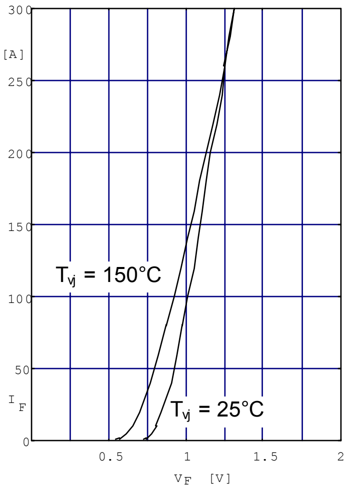


Fig. 1 Forward current versus voltage drop per diode

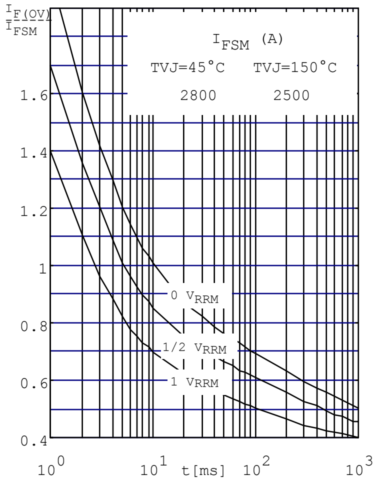


Fig. 2 Surge overload current per diode I_{FSM}: Crest value. t: duration

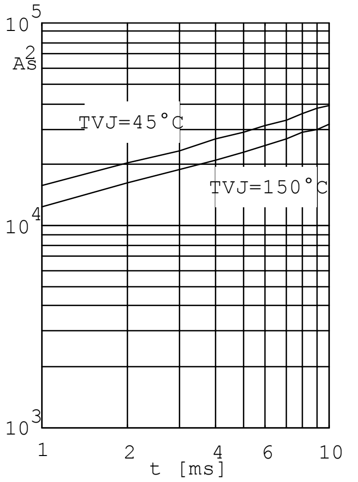


Fig. 3 $\int i^2dt$ versus time (1-10ms) per diode (or thyristor)

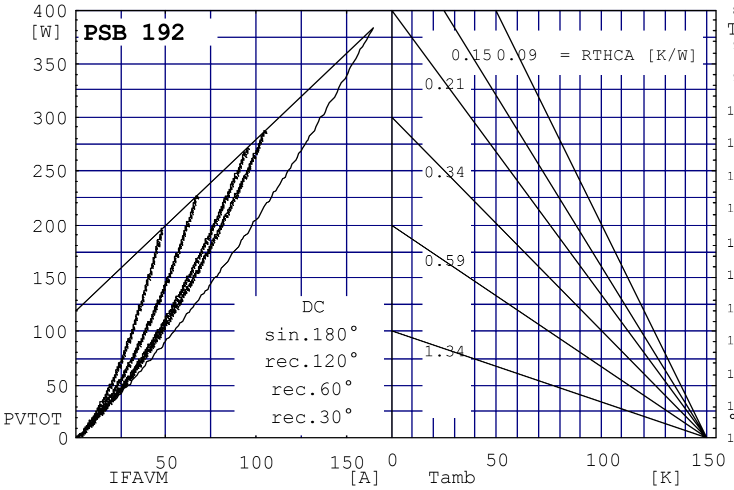


Fig. 4 Power dissipation versus direct output current and ambient temperature

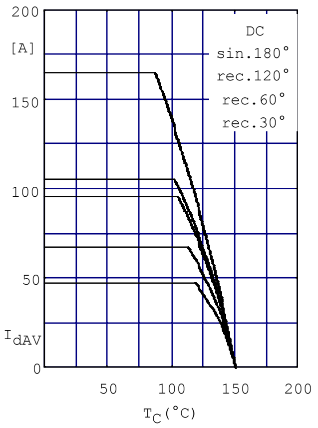


Fig.5 Maximum forward current at case temperature

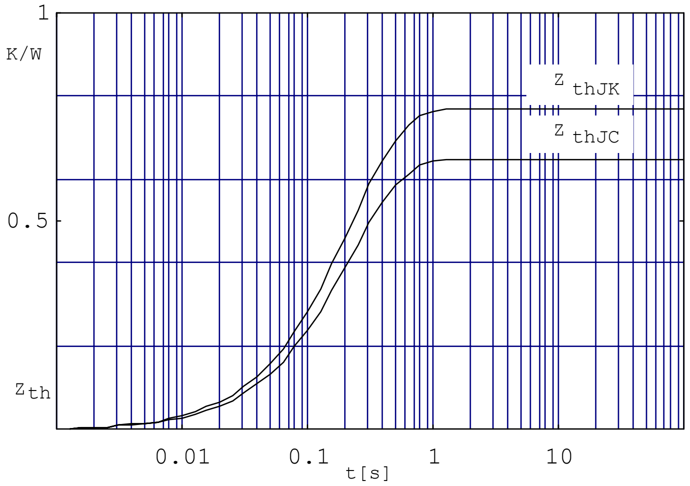


Fig. 6 Transient thermal impedance per diode (or Thyristor), calculated