POWERSEM

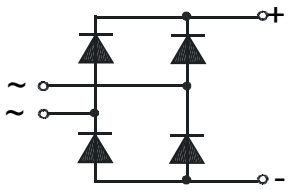
Single Phase Rectifier Bridge

PSB 36

I_{dAV} = 30 A
V_{RRM} = 800-1800 V

Preliminary Data Sheet

V_{RSM} V_{DSM} (V)	V_{RRM} V_{DRM} (V)	Type
800	800	PSB 36/08
1200	1200	PSB 36/12
1400	1400	PSB 36/14
1600	1600	PSB 36/16
1800	1800	PSB 36/18



Symbol	Test Conditions			Maximum Ratings	
I_{dAVM}	T_C = 62 °C,	(per module)		30	A
I_{FSM}	T_{VJ} = 45 °C	t = 10 ms	(50 Hz), sine	550	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	600	A
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	500	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	550	A
$\int i^2 dt$	T_{VJ} = 45 °C	t = 10 ms	(50 Hz), sine	1520	A²s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	1520	A²s
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	1250	A²s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	1250	A²s
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)	2	Nm
Weight	typ.			20	g

Symbol	Test Conditions			Characteristic Value	
I_R	V_R = V_{RRM},	T_{VJ} = T_{VJM}	≤	0.3	mA
	V_R = V_{RRM},	T_{VJ} = 25°C	≤	2.0	mA
V_F	I_F = 150 A,	T_{VJ} = 25 °C	≤	1.7	V
V_{TO}	For power-loss calculations only			0.8	V
r_T				5.8	mΩ
R_{thJC}	per diode; DC			6.2	K/W
	per module			1.55	K/W
R_{thJK}	per diode; DC			7.4	K/W
	per module			1.85	K/W
d_s	Creeping distance on surface			12.7	mm
d_A	Creeping distance in air			9.4	mm
a	Max. allowable acceleration			50	m/s²

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

Features

- Package with 1/4“ fast-on terminals
- Isolation voltage 3000 V~
- Planar glass passivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- UL registered E 148688

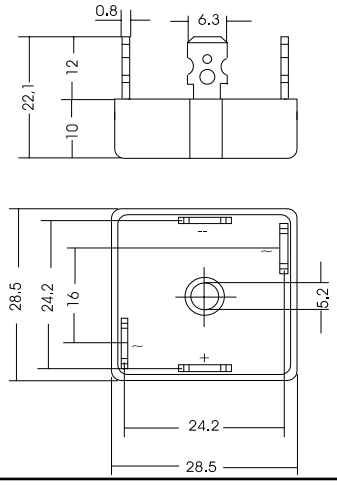
Applications

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

Advantages

- Easy to mount with one screw
- Space and weight savings
- Improved temperature and power cycling capability

Package style and outline
Dimensions in mm (1mm = 0.0394“)



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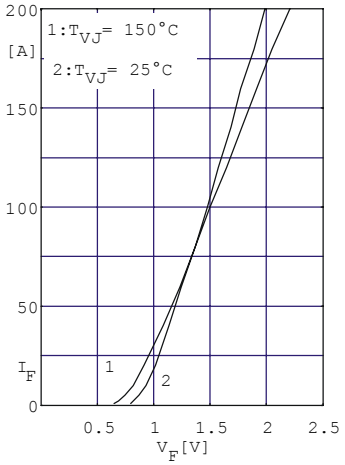

Fig. 1 Forward current versus voltage drop per diode

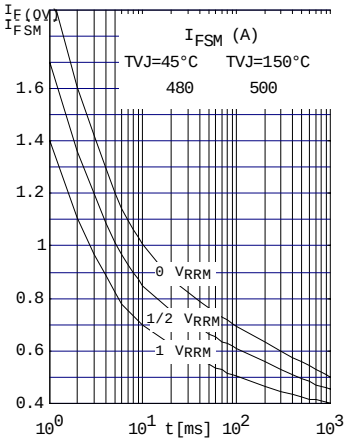

Fig. 2 Surge overload current per diode I_{FSM}: Crest value. t: duration

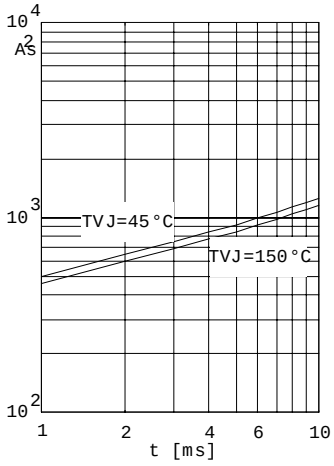

Fig. 3 $\int i^2dt$ versus time (1-10ms) per diode (or thyristor)

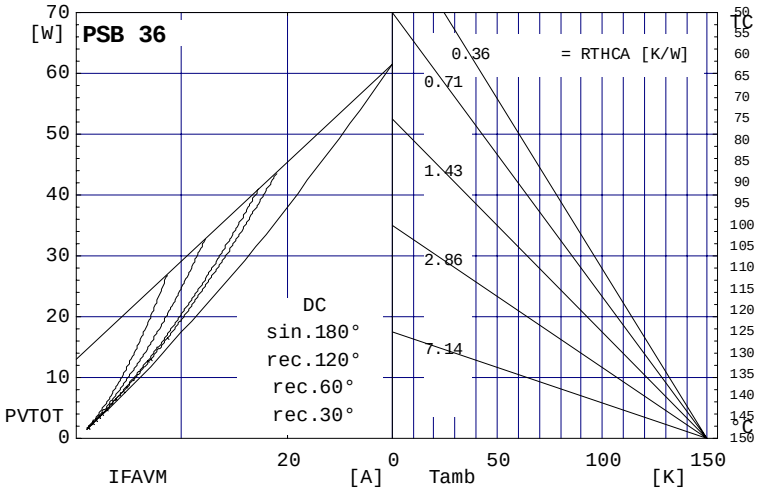

Fig. 4 Power dissipation versus direct output current and ambient temperature

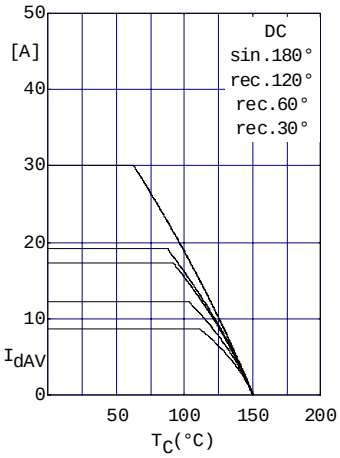

Fig.5 Maximum forward current at case temperature

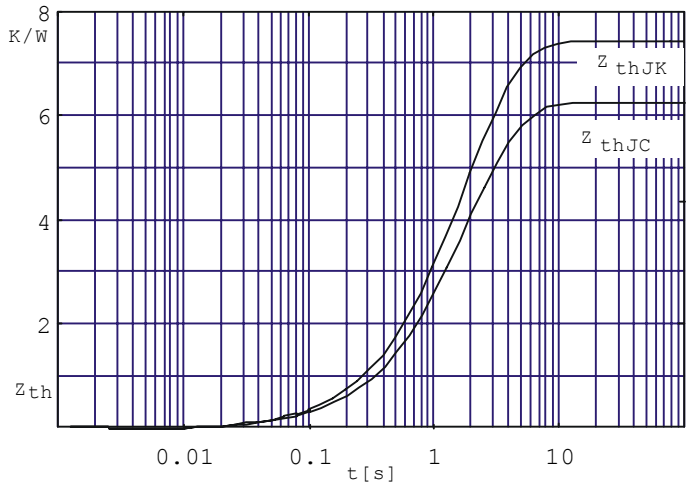

Fig. 6 Transient thermal impedance per diode (or thyristor), calculated

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