POWERSEM

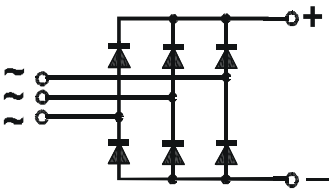
Three Phase Rectifier Bridge

PSD 82

I_{dAV} = 88 A
V_{RRM} = 800-1800V

Preliminary Data Sheet

V_{RSM} V_{DSM} (V)	V_{RRM} V_{DRM} (V)	Type
800	800	PSD 82/08
1200	1200	PSD 82/12
1400	1400	PSD 82/14
1600	1600	PSD 82/16
1800	1800	PSD 82/18





Symbol	Test Conditions			Maximum Ratings	
I_{dAVM}	T_C = 110 °C,	(per module)		88	A
I_{FSM}	T_{VJ} = 45 °C	t = 10 ms	(50 Hz), sine	750	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	820	A
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	670	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	740	A
$\int i^2 dt$	T_{VJ} = 45 °C	t = 10 ms	(50 Hz), sine	2800	A²s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	2800	A²s
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	2250	A²s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	2250	A²s
T_{VJ}				-40... + 150	°C
T_{VJM}				150	°C
T_{stg}				-40... + 125	°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.			160	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	≤	1.6	V
V_{TO}	For power-loss calculations only		0.8	V
r_T			5	mΩ
R_{thJC}	per diode; DC current		1.1	K/W
	per module		0.183	K/W
R_{thJK}	per diode; DC current		1.52	K/W
	per module		0.253	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/s²

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

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

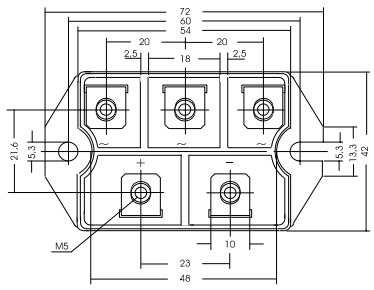
- Supplies for DC power equipment
- Input rectifier for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

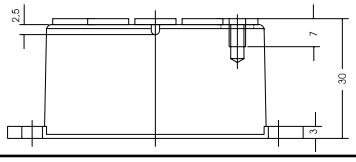
Advantages

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

Package style and outline

Dimensions in mm (1mm = 0.0394")





POWERSEM GmbH, Walpersdorfer Str. 53
D - 91126 Schwabach
Phone: 09122 - 9764 - 0 FAX: 09122 - 9764 - 20

© 2002 POWERSEM reserves the right to change limits, test conditions and dimensions

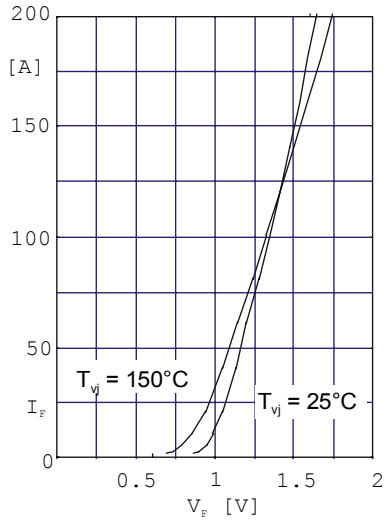


Fig. 1 Forward current versus voltage drop per diode

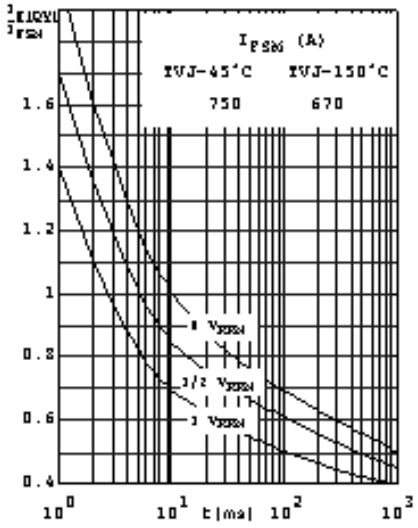


Fig. 2 Surge overload current per diode I_{FSM}: Crest value. t: duration

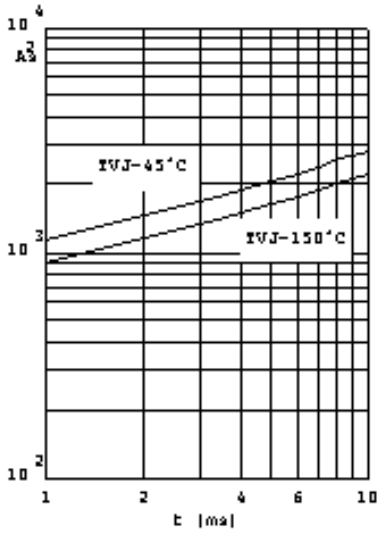


Fig. 3 $\int i^2dt$ versus time (1-10ms) per diode (or thyristor)

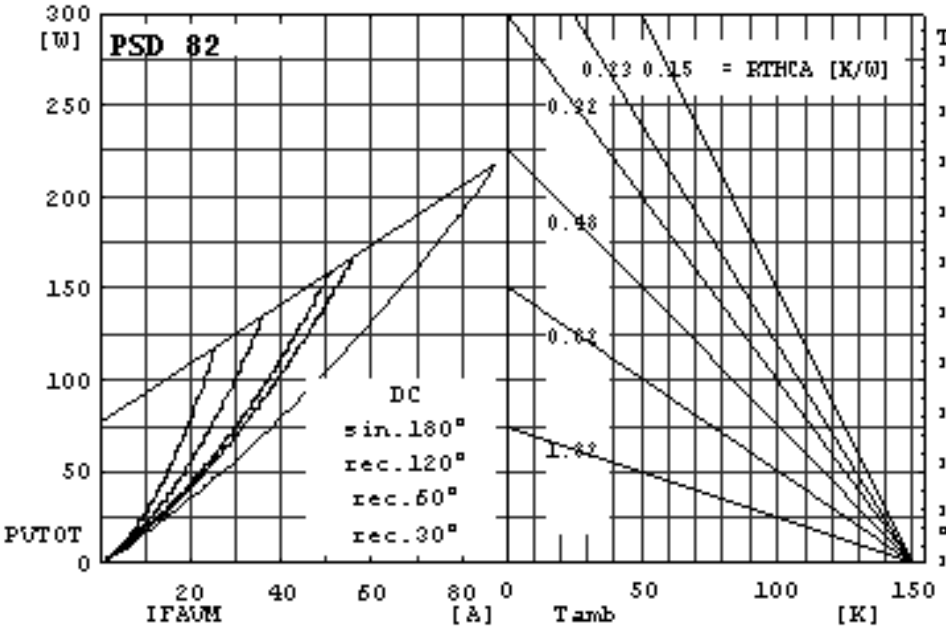


Fig. 4 Power dissipation versus direct output current and ambient temperature

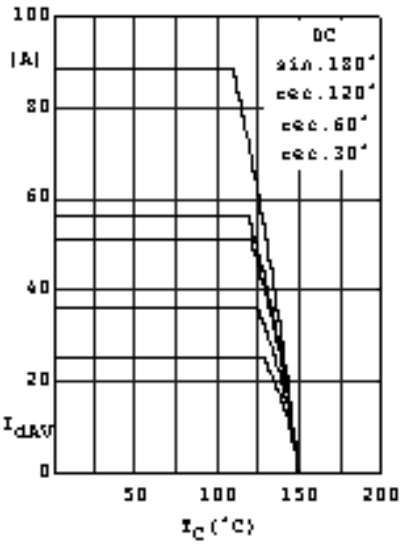


Fig.5 Maximum forward current at case temperature

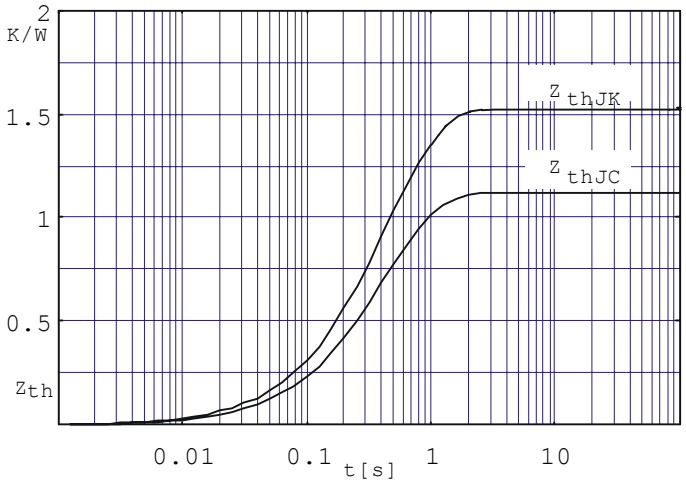


Fig. 6 Transient thermal impedance per diode (or thyristor), calculated

POWERSEM GmbH, Walpersdorfer Str. 53
D - 91126 Schwabach
Phone: 09122 - 9764 - 0 FAX: 09122 - 9764 - 20
© 2002 POWERSEM reserves the right to change limits, test conditions and dimensions