

Three Phase Rectifier Bridges

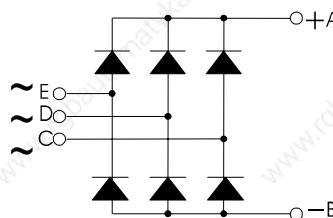
PSD 192

I_{dAV}
V_{RRM}

= 248 A
= 800-1800 V

Preliminary Data Sheet

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



Symbol	Test Conditions	Maximum Ratings	
I _{dAV}	T _C = 90°C, module	248	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
∫ 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 ... + 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 (M6)	5	Nm
	Terminal connection torque (M6)	5	Nm
Weight	typ.	270	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

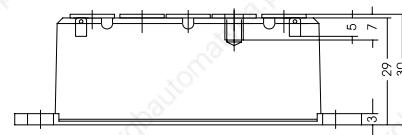
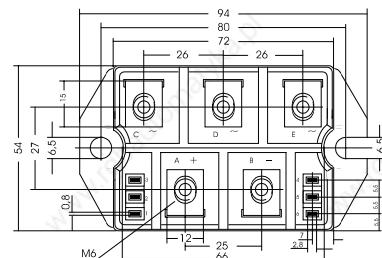
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

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°C	≤ 0.3	mA
	V _R = V _{RRM} T _{VJ} = T _{VJM}	≤ 5	mA
V _F	I _F = 300 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	0.075	K/W
R _{thJK}	per diode; DC current	0.6	K/W
	per module	0.1	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

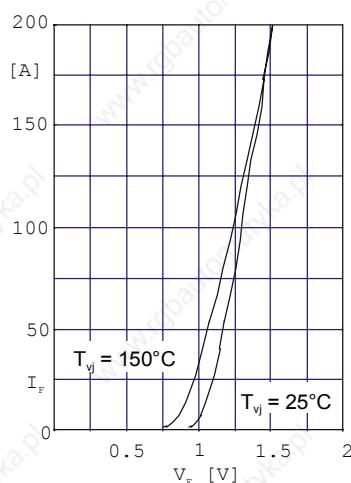


Fig. 1 Forward current versus voltage drop per diode

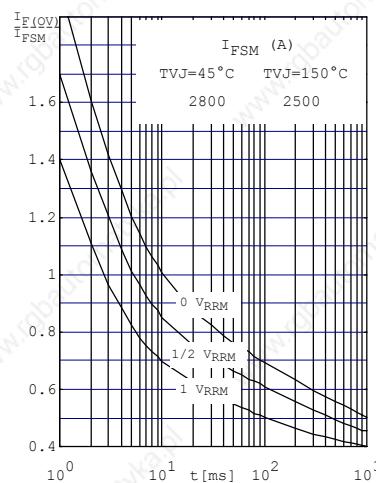


Fig. 2 Surge overload current per diode I_{FSM} : Crest value.
t: duration

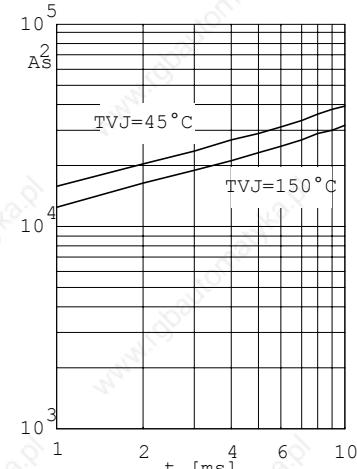


Fig. 3 $\int i_f^2 dt$ versus time
(1-10ms) per diode (or thyristor)

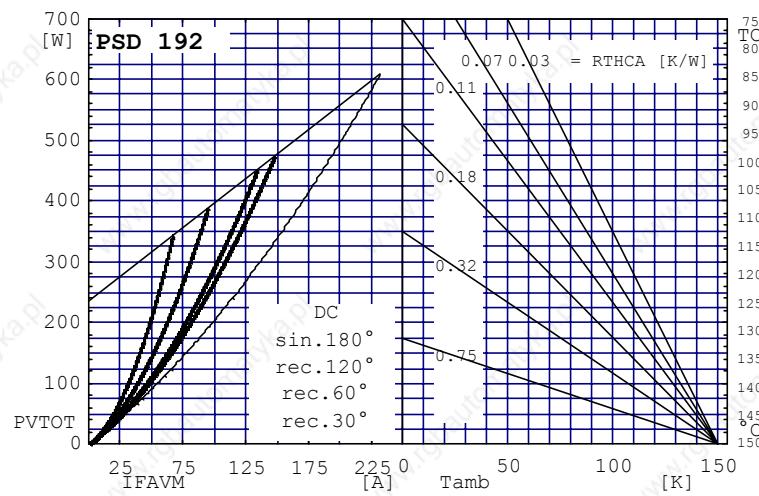


Fig. 4 Power dissipation versus direct output current and ambient temperature

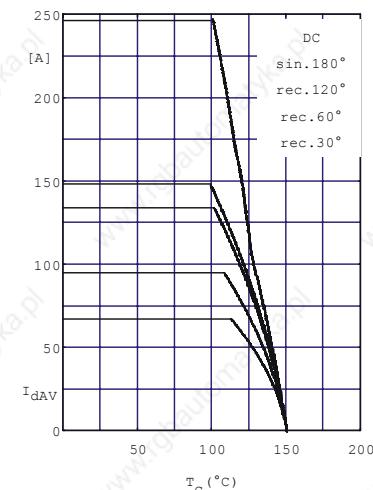


Fig. 5 Maximum forward current at case temperature

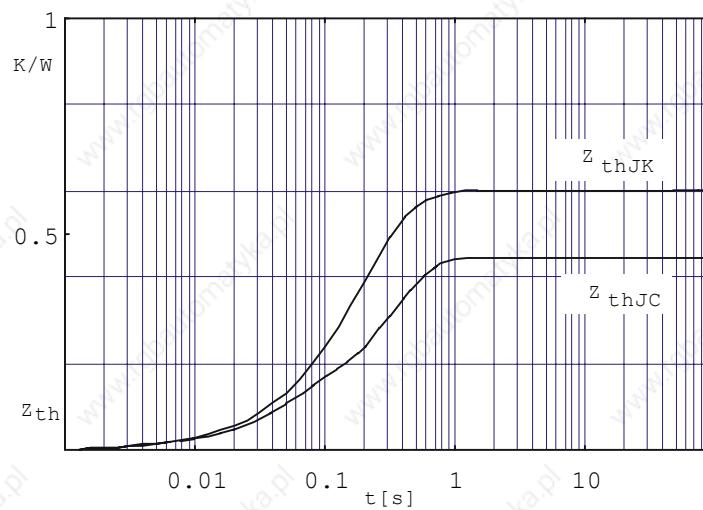


Fig. 6 Transient thermal impedance per diode (or thyristor), calculated