

Three Phase Rectifier Bridges

PSD 192

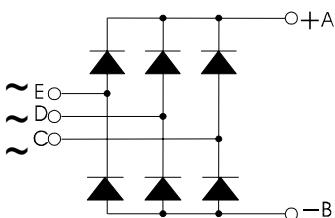
$$\begin{matrix} I_{dAV} \\ V_{RRM} \end{matrix}$$

$$= 248 \text{ A}$$

$$= 800-1800 \text{ V}$$

Preliminary Data Sheet

V_{RSM}	V_{RRM}	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}	$T_C = 90^\circ\text{C}$, module			248	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms}$	(50 Hz), sine	2800	A
	$V_R = 0$	$t = 8.3 \text{ ms}$	(60 Hz), sine	3300	A
	$T_{VJ} = T_{VJM}$	$t = 10 \text{ ms}$	(50 Hz), sine	2500	A
	$V_R = 0$	$t = 8.3 \text{ ms}$	(60 Hz), sine	2750	A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms}$	(50 Hz), sine	39200	$\text{A}^2 \text{ s}$
	$V_R = 0$	$t = 8.3 \text{ ms}$	(60 Hz), sine	45000	$\text{A}^2 \text{ s}$
	$T_{VJ} = T_{VJM}$	$t = 10 \text{ ms}$	(50 Hz), sine	31200	$\text{A}^2 \text{ s}$
	$V_R = 0$	$t = 8.3 \text{ ms}$	(60 Hz), sine	31200	$\text{A}^2 \text{ s}$
T_{VJ}				-40 ... + 150	$^\circ\text{C}$
T_{VJM}				150	$^\circ\text{C}$
T_{stg}				-40 ... + 125	$^\circ\text{C}$
V_{ISOL}	50/60 HZ, RMS	$t = 1 \text{ min}$			2500
	$I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ s}$			3000
M_d	Mounting torque		(M6)	5	Nm
	Terminal connection torque		(M6)	5	Nm
Weight	typ.			270	g

Symbol	Test Conditions		Characteristic Value		
I_R	$V_R = V_{RRM}$	$T_{VJ} = 25^\circ C$	\leq	0.3	mA
	$V_R = V_{RRM}$	$T_{VJ} = T_{VJM}$	\leq	5	mA
V_F	$I_F = 300 A$	$T_{VJ} = 25^\circ C$	\leq	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

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

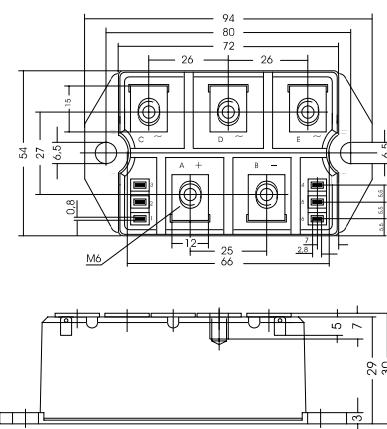
- Supplies for DC power equipment
 - Input rectifiers for PWM inverter
 - Battery DC power supplies
 - Field supply for DC motors

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")



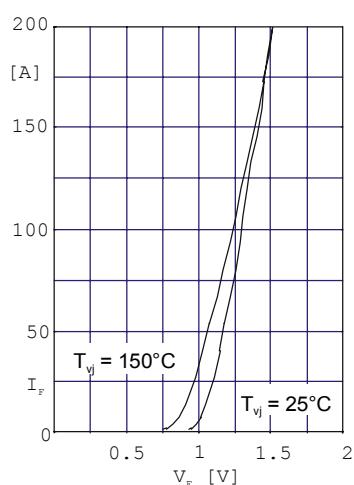


Fig. 1 Forward current versus voltage drop per diode

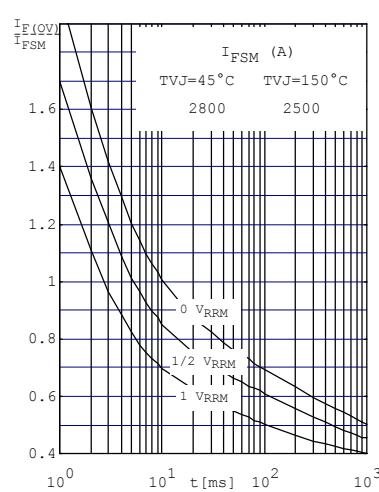


Fig. 2 Surge overload current per diode I_{FSM} : Crest value.
t: duration

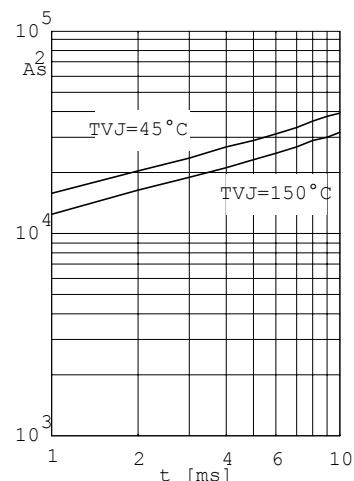


Fig. 3 $\int i^2 dt$ versus time
(1-10ms) per diode (or thyristor)

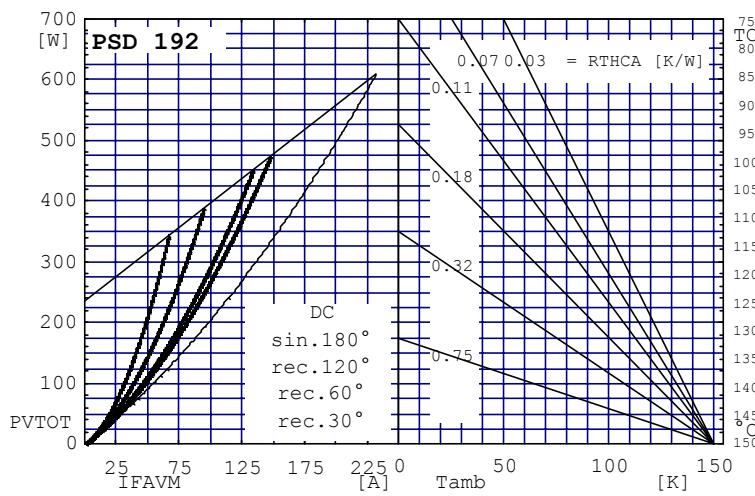


Fig. 4 Power dissipation versus direct output current and ambient temperature

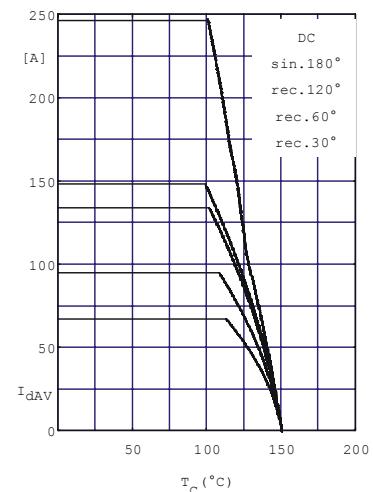


Fig. 5 Maximum forward current at case temperature

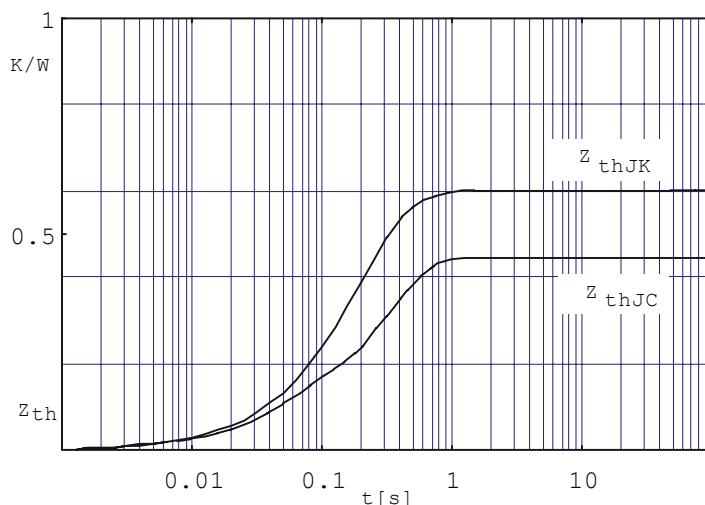


Fig. 6 Transient thermal impedance per diode (or thyristor), calculated