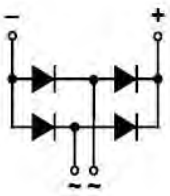
S1PDB100

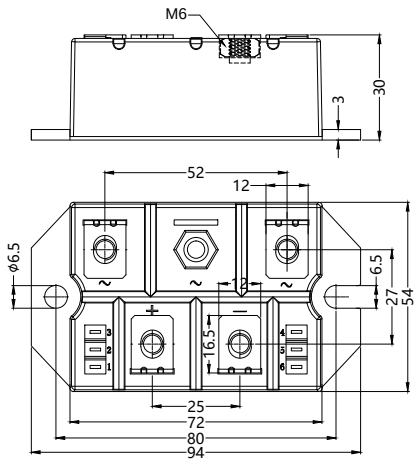
Single Phase Bridge Rectifiers Modules



Type	V_{RSM} V	V_{RRM} V
S1PDB100N08	900	800
S1PDB100N10	1100	1000
S1PDB100N12	1300	1200
S1PDB100N14	1500	1400
S1PDB100N16	1700	1600
S1PDB100N18	1900	1800

RoHS Compliant

Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions		Maximum Ratings	Unit
I_{dav}	T_C=100°C, module		100	A
I_{FSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1500 1620	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1280 1380	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	11300 10900	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	8130 7870	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+125	°C
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤1mA	t=1min t=1s	2500 3000	V~
M_d	Mounting torque (M6) Terminal connection torque (M6)		5 ± 15% 5 ± 15%	Nm
Weight	typical		270	g

www.sirectifier.com Tel： +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com

S1PDB100

Single Phase Bridge Rectifiers Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}$; $T_{VJ}=25^oC$ $V_R=V_{RRM}$; $T_{VJ}=T_{VJM}$	≤0.2 ≤5	mA
V_F	I_F=100A; $T_{VJ}=25^oC$	≤1.25	V
V_{TO}	For power-loss calculations only	0.78	V
r_T	$T_{VJ}=T_{VJM}$	4.7	mΩ
R_{thJC}	per diode; 180° per module	0.75 0.187	K/W
R_{thCH}		0.30	K/W
d_S	Creeping distance on surface	10	mm
d_A	Creepage distance in air	9.4	mm
a	Max. allowable acceleration	50	m/s^2

FEATURES

* Package with screw terminals
* Isolation voltage 3000 V~
* Glass passivated chips
* Blocking voltage up to 1800 V
* Low forward voltage drop
* UL File NO.E310749
* RoHS compliant

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

www.sirectifier.com Tel： +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com

S1PDB100

Single Phase Bridge Rectifiers Modules

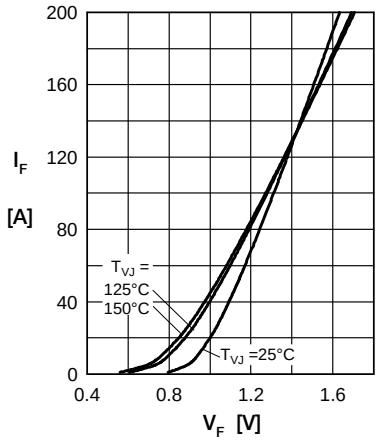


Fig. 1 Forward current versus voltagedropperdiode

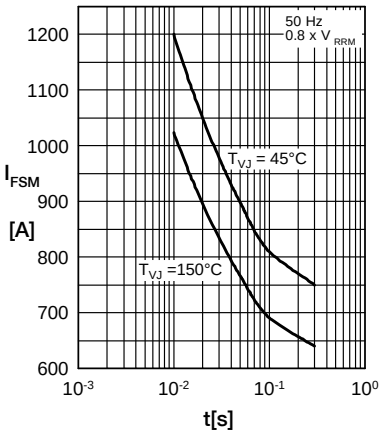


Fig. 2 Surge overload current vs. time per diode

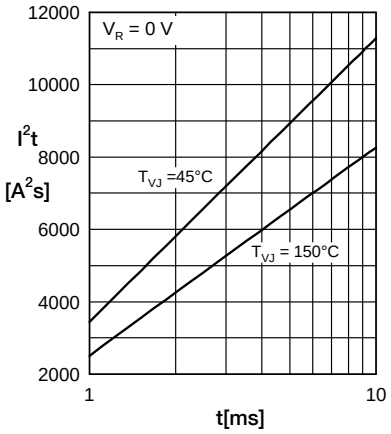


Fig. 3 I^2t versus time per diode

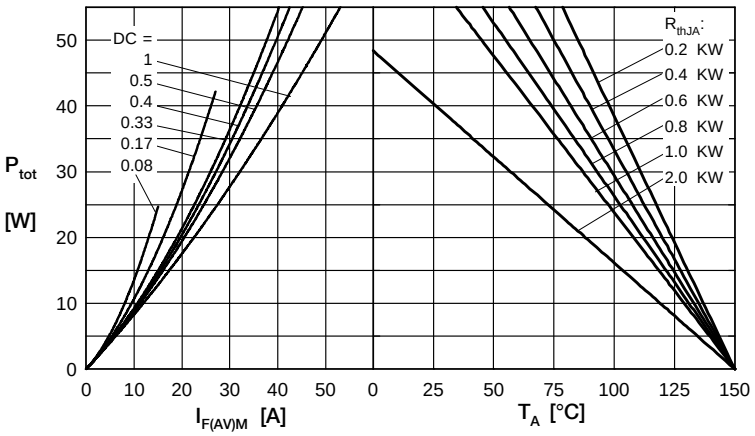


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

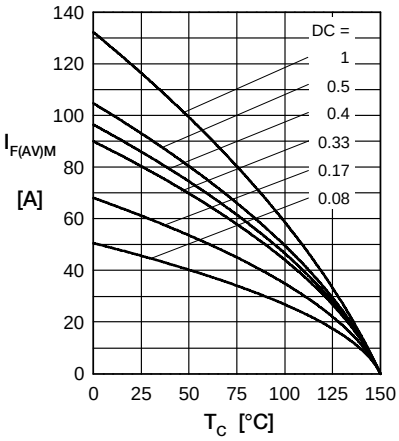


Fig. 5 Max. forward current vs. case temperature per diode

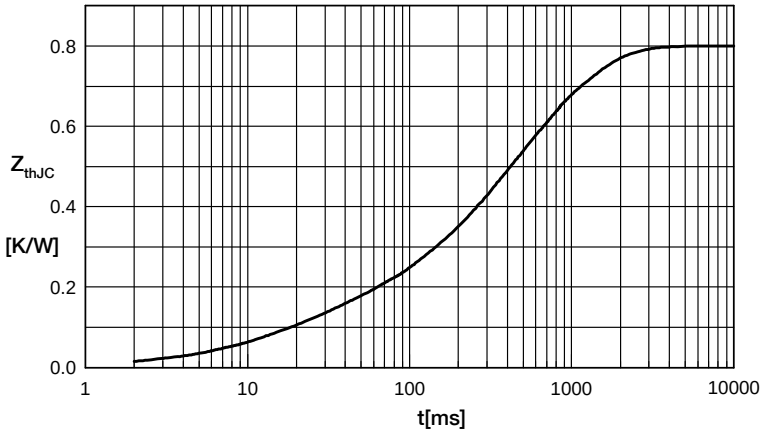


Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for Z_{thJC} calculation:

i	R_{th}(K/W)	t_i (s)
1	0.100	0.020
2	0.014	0.010
3	0.192	0.225
4	0.281	0.800
5	0.213	0.580

www.sirectifier.com Tel： +86-519-86800000 Fax: +86-519-88019919 E-mail: sales@sirectifier.com