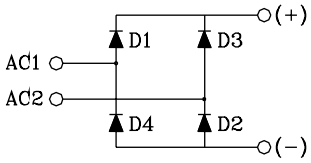
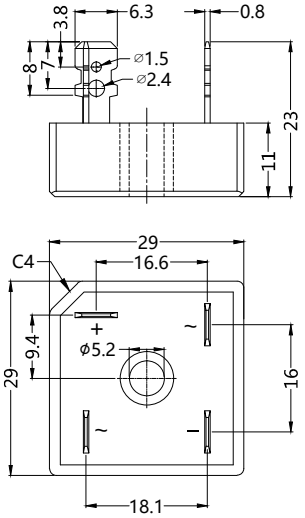
S1PDB50

Single Phase Bridge Rectifiers



Type	V_{RSM} V	V_{RRM} V
S1PDB5006	700	600
S1PDB5008	900	800
S1PDB5010	1100	1000
S1PDB5012	1300	1200
S1PDB5014	1500	1400
S1PDB5016	1700	1600
S1PDB5018	1900	1800

Dimensions in mm



Symbol	Test Conditions		Maximum Ratings	Unit
I_{dav}	T_C=55 °C, module		50	A
I_{FSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	400 450	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	310 350	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	800 960	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1020 1230	
T_{VJ} T_{VJM} T_{stg}			-55...+150 150 -55...+125	°C
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤1mA	t=1min t=1s	2500 3000	V~
M_d	Mounting torque (M4)		2 ± 15%	Nm
Weight	typ.		16	g

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Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}$; $T_{VJ}=25^oC$ $V_R=V_{RRM}$; $T_{VJ}=T_{VJM}$	≤10 ≤1500	uA
V_F	I_F=25A;T_{VJ}=25 ^oC	≤ 1.1	V
V_{TO}	For power-loss calculations only	0.8	V
r_T	$T_{VJ}=T_{VJM}$	3.867	mΩ
R_{thJC}	per diode per module	1.2 0.30	K/W
R_{thJK}	per diode per module	1.4 0.35	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

* Rating to 1800V PRV
* High efficiency
* Glass passivated chip junction
* Electrically isolated metal case for maximum heat dissipation

APPLICATIONS

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

ADVANTAGES

* Easy to mount one screw
* Space and weight savings
* Improved temperature and power cycling

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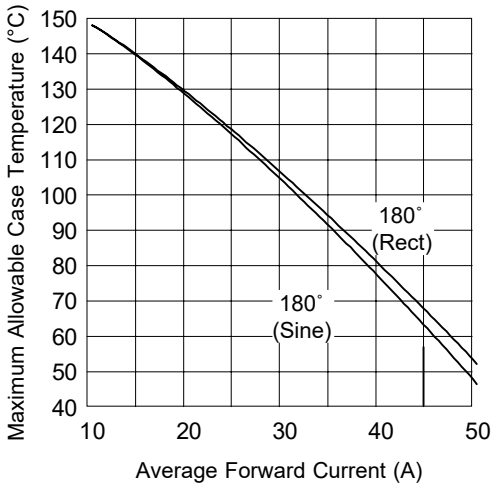

Fig. 1 - Current Ratings Characteristics

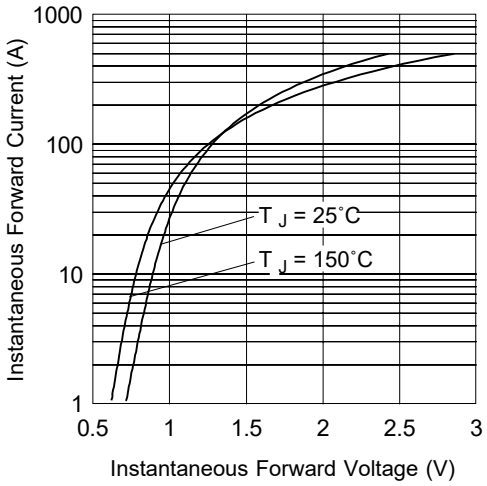

Fig. 2 - Forward Voltage Drop Characteristics

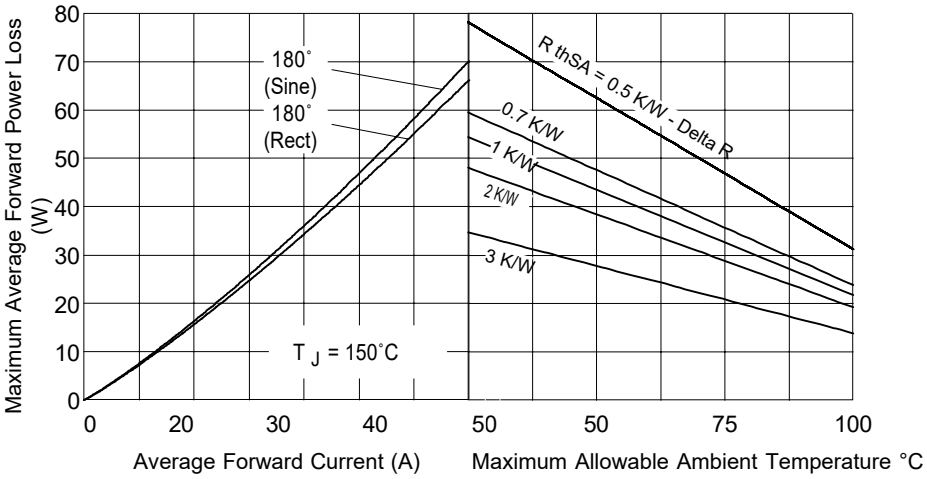

Fig. 3 - Total Power Loss Characteristics

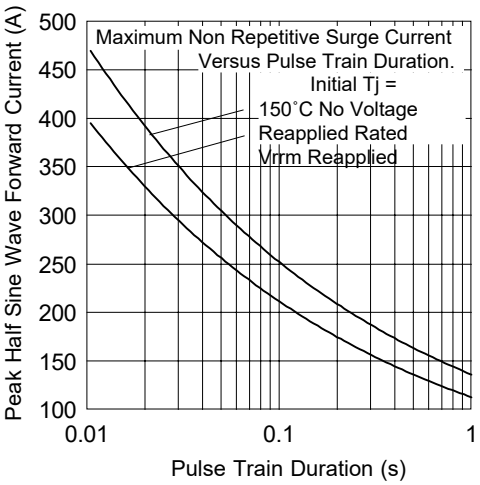

Fig. 4 - Maximum Non-Repetitive Surge Current

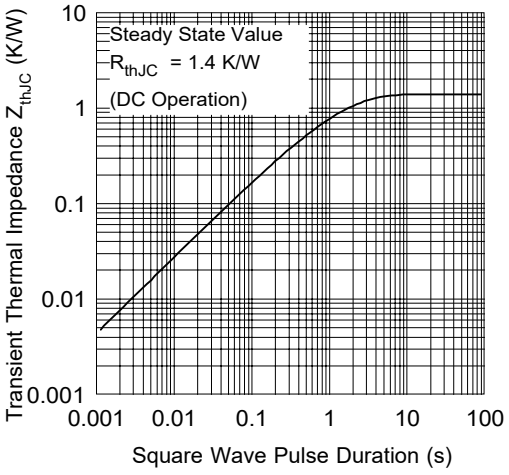

Fig. 5- Thermal Impedance Z $_{thJC}$ Characteristic

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