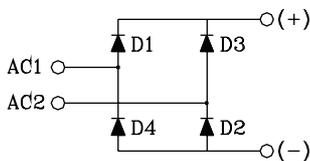


S1PDB40NXX

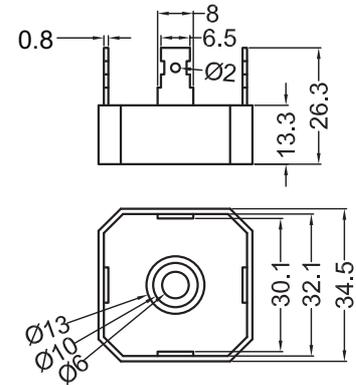
Single Phase Bridge Rectifiers



Dimensions in mm (1mm=0.0394")



Type	V_{RSM} V	V_{RRM} V
S1PDB40N06	700	600
S1PDB40N08	900	800
S1PDB40N12	1300	1200
S1PDB40N14	1500	1400
S1PDB40N16	1700	1600



Symbol	Test Conditions	Maximum Ratings	Unit
I_{dav}	$T_C=55^\circ\text{C}$, module	40	A
I_{FSM}	$T_{VJ}=45^\circ\text{C}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	650 730	A
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	510 580	
I^2t	$T_{VJ}=45^\circ\text{C}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	1450 1300	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	1230 1130	
T_{VJ} T_{VJM} T_{stg}		-55...+150 150 -55...+125	$^\circ\text{C}$
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1\text{mA}$ $t=1\text{min}$ $t=1\text{s}$	2500 3000	V~
M_d	Mounting torque (M5)	$3 \pm 15\%$	Nm
Weight	typ.	22	g

S1PDB40NXX

Single Phase Bridge Rectifier

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}; T_{VJ}=25^{\circ}C$ $V_R=V_{RRM}; T_{VJ}=T_{VJM}$	≤ 5 ≤ 1000	μA
V_F	$I_F=20A; T_{VJ}=25^{\circ}C$	≤ 1.1	V
V_{TO}	For power-loss calculations only	0.8	V
r_T	$T_{VJ}=T_{VJM}$	3.867	$m\Omega$
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 1600V 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 DC power supplies
- * Field supply for DC motors

ADVANTAGES

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

S1PDB40NXX

Single Phase Bridge Rectifiers

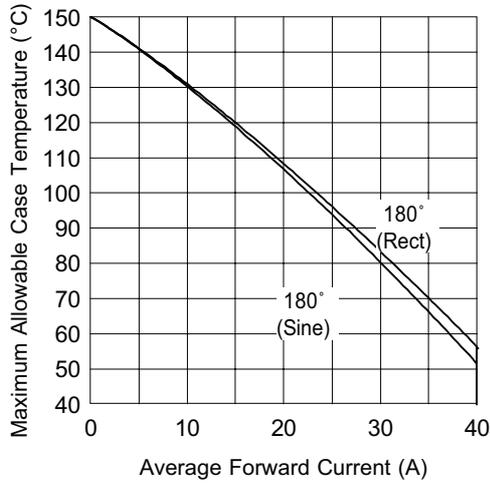


Fig. 1 - Current Ratings Characteristics

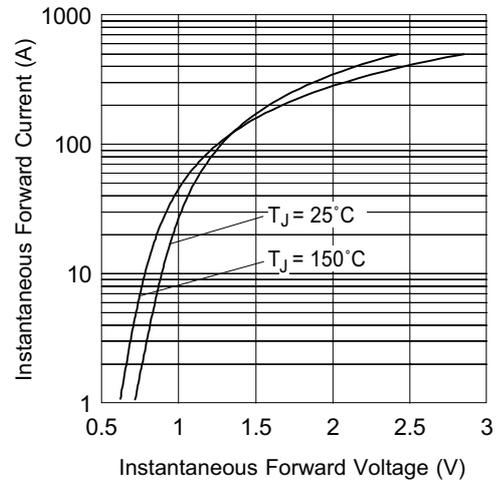


Fig. 2 - Forward Voltage Drop Characteristics

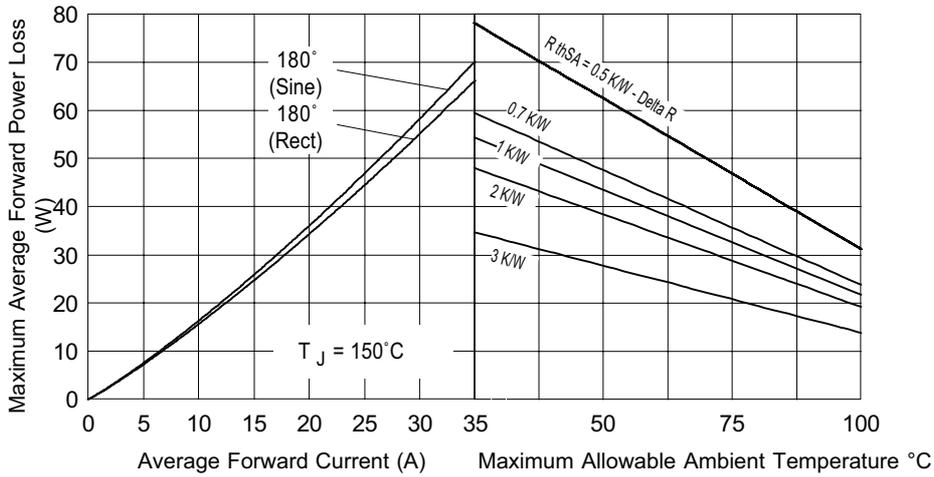


Fig. 3 - Total Power Loss Characteristics

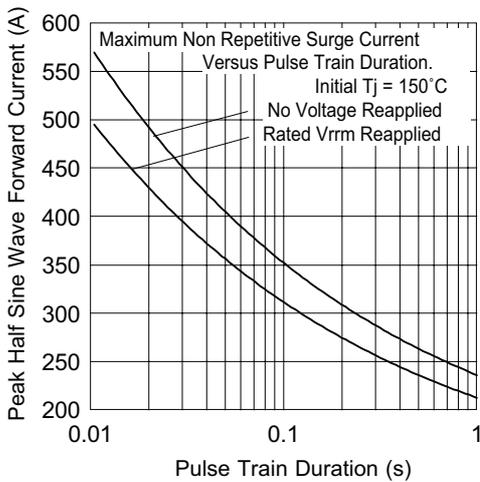


Fig. 4 - Maximum Non-Repetitive Surge Current

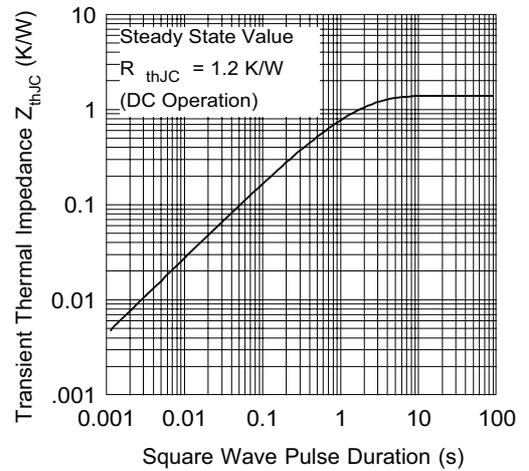


Fig. 5 - Thermal Impedance Z_{thJC} Characteristic