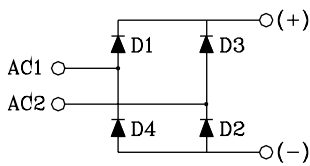


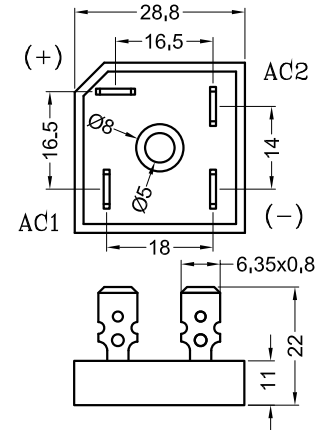
# S1PDB50005 thru S1PDB5018

## Single Phase Bridge Rectifiers



Dimensions in mm (1mm=0.0394")

	V <sub>RRM</sub> V	V <sub>RMS</sub> V	V <sub>DC</sub> V
<b>S1PDB50005</b>	50	35	50
<b>S1PDB5001</b>	100	70	100
<b>S1PDB5002</b>	200	140	200
<b>S1PDB5004</b>	400	280	400
<b>S1PDB5006</b>	600	420	600
<b>S1PDB5008</b>	800	560	800
<b>S1PDB5010</b>	1000	700	1000
<b>S1PDB5012</b>	1200	840	1200
<b>S1PDB5014</b>	1400	980	1400
<b>S1PDB5016</b>	1600	1120	1600
<b>S1PDB5018</b>	1800	1260	1800



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



# S1PDB50005 thru S1PDB5018

## Single Phase Bridge Rectifiers

Symbol	Test Conditions	Characteristic Values	Unit
<b>I<sub>R</sub></b>	V <sub>R</sub> =V <sub>RRM</sub> ; T <sub>VJ</sub> =25°C V <sub>R</sub> =V <sub>RRM</sub> ; T <sub>VJ</sub> =T <sub>VJM</sub>	≤ 10 ≤ 1500	μA
<b>V<sub>F</sub></b>	I <sub>F</sub> =25A; T <sub>VJ</sub> =25°C	≤ 1.1	V
<b>V<sub>TO</sub></b>	For power-loss calculations only	0.8	V
<b>r<sub>T</sub></b>	T <sub>VJ</sub> =T <sub>VJM</sub>	3.867	mΩ
<b>R<sub>thJC</sub></b>	per diode per module	1.2 0.30	K/W
<b>R<sub>thJK</sub></b>	per diode per module	1.4 0.35	K/W
<b>d<sub>s</sub></b>	Creeping distance on surface	10	mm
<b>d<sub>A</sub></b>	Creepage distance in air	9.4	mm
<b>a</b>	Max. allowable acceleration	50	m/s <sup>2</sup>

### 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

**Sirectifier**®

# S1PDB50XX

## Single Phase Bridge Rectifiers

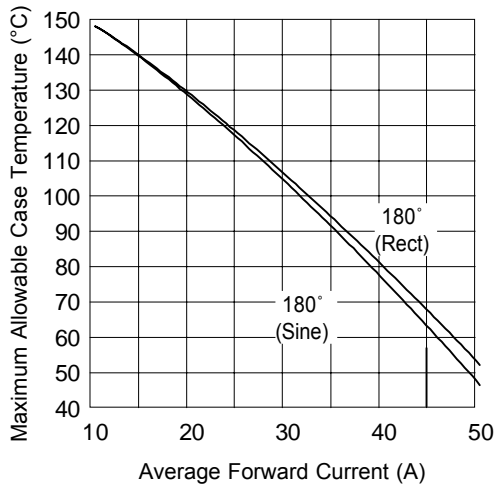


Fig. 1 - Current Ratings Characteristics

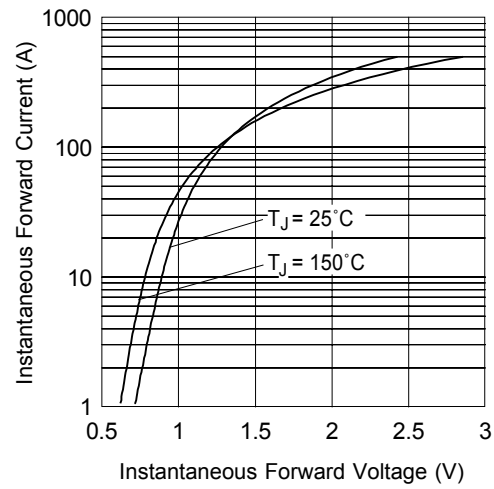


Fig. 2 - Forward Voltage Drop Characteristics

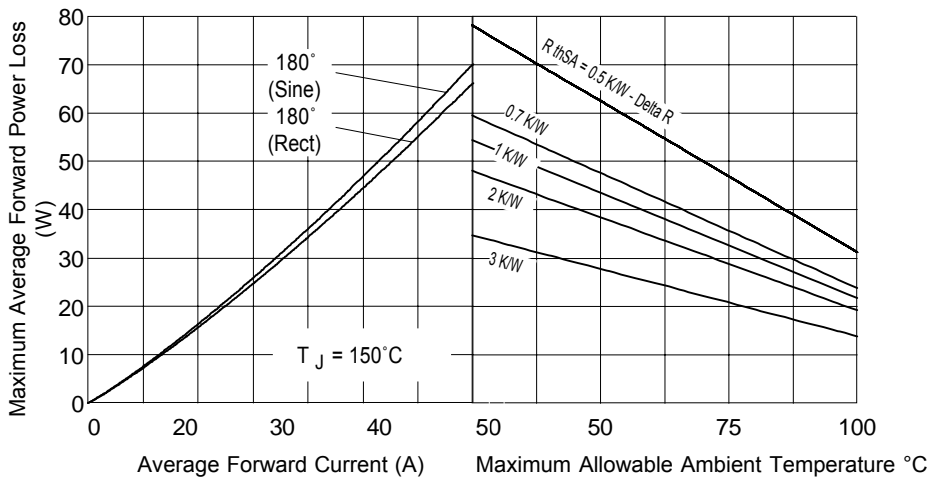


Fig. 3 - Total Power Loss Characteristics

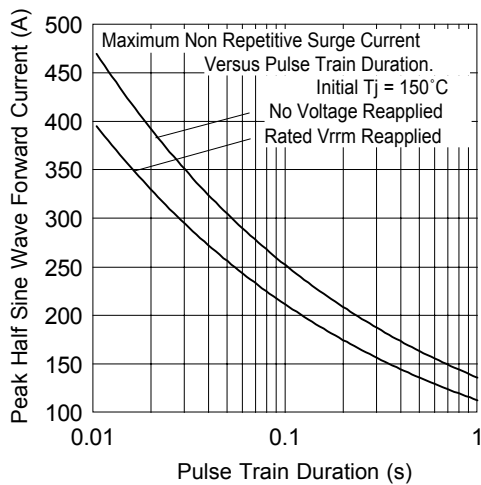


Fig. 4 - Maximum Non-Repetitive Surge Current

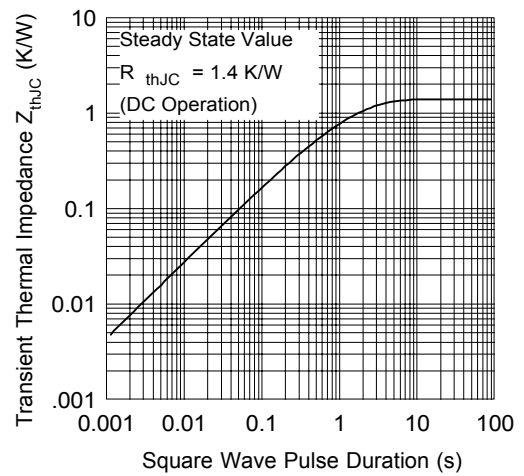


Fig. 5 - Thermal Impedance  $Z_{thJC}$  Characteristic

