

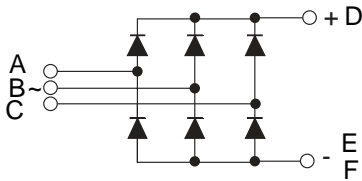
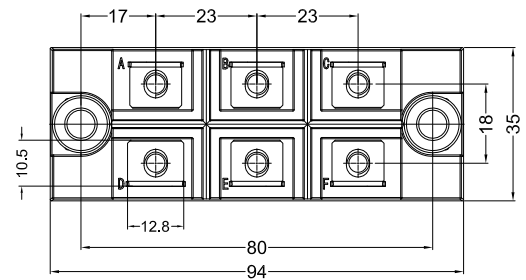
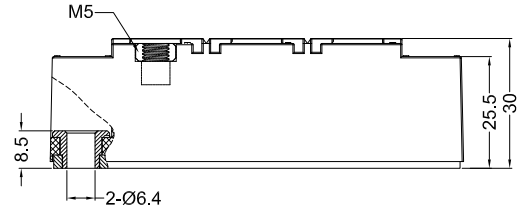
# S3PDB91N16

## Three Phase Rectifier Modules



Type	V <sub>RSM</sub> V	V <sub>RRM</sub> V
S3PDB91N08	900	800
S3PDB91N12	1300	1200
S3PDB91N14	1500	1400
S3PDB91N16	1700	1600
S3PDB91N18	1900	1800

### Dimensions in mm



Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>dav</sub>	T <sub>C</sub> =100°C, module	161	A
I <sub>dav</sub>	T <sub>A</sub> =45°C (R <sub>thCA</sub> =0.6K/W), module	201	
I <sub>FSM</sub>	T <sub>VJ</sub> =45°C V <sub>R</sub> =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1340 1500	A
	T <sub>VJ</sub> =T <sub>VJM</sub> V <sub>R</sub> =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1200 1260	
P <sub>RSM</sub>	Per diode chip, T <sub>VJ</sub> = 25 °C , t <sub>p</sub> =10s	5.20	KW
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	10200 9300	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	7900 6600	
T <sub>VJ</sub> T <sub>VJM</sub> T <sub>stg</sub>		-40...+150 150 -40...+150	°C
V <sub>ISOL</sub>	50/60Hz, RMS I <sub>ISOL</sub> ≤1mA t=1min t=1s	2500 4000	V~
M <sub>d</sub>	Mounting torque (M5) Terminal connection torque (M4 & M5)	5 ± 15% 5 ± 15%	Nm
Weight	typ.	176	g

**Sirectifier®**

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Symbol	Test Conditions	Characteristic Values	Unit
$I_R$	$V_R=V_{RRM}; T_{VJ}=25^{\circ}\text{C}$ $V_R=V_{RRM}; T_{VJ}=T_{VJM}$	$0.3$ $5$	mA
$V_F$	$I_F=160\text{A}; T_{VJ}=25^{\circ}\text{C}$	$\leq 1.49$	V
$V_{FO}$	For power-loss calculations only	0.80	V
$r_F$	$T_{VJ}=T_{VJM}$	5	m $\Omega$
$R_{thJC}$	per diode per module	0.73 0.12	K/W
$R_{thJK}$	per diode per module	0.90 0.17	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 <sup>2</sup>

### FEATURES

- \* Package with screw terminals
- \* Isolation voltage 3000 V~
- \* Blocking voltage up to 1800 V
- \* Low forward voltage drop
- \* 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

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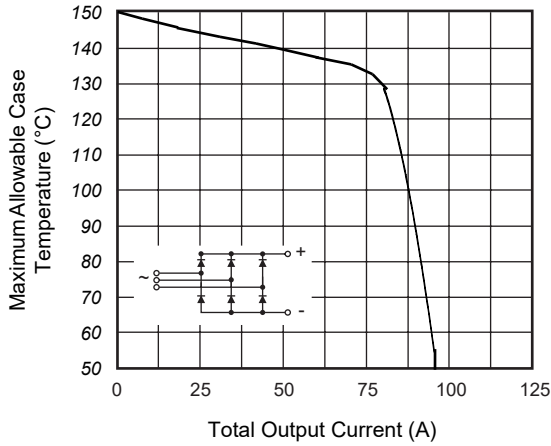


Fig. 1 - Current Ratings Characteristic

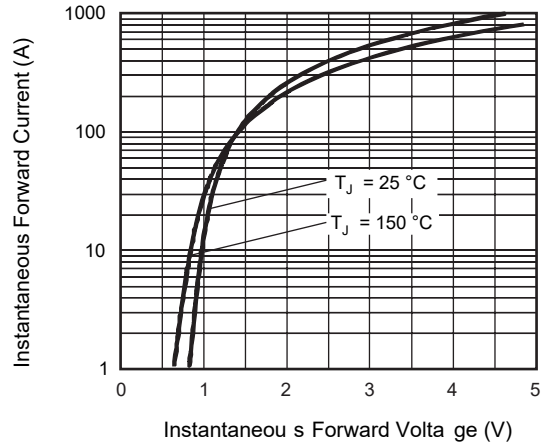


Fig. 2 - Forward Voltage Drop Characteristics

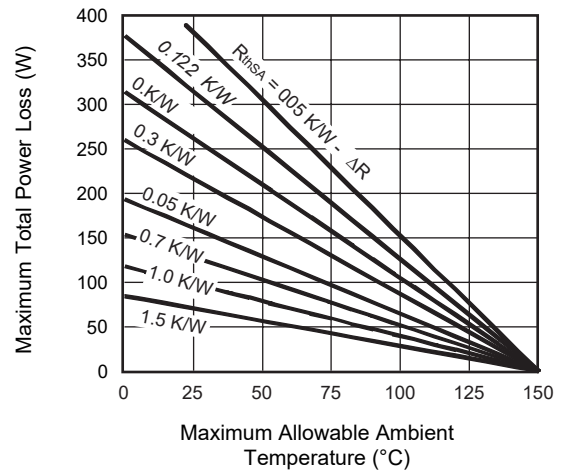
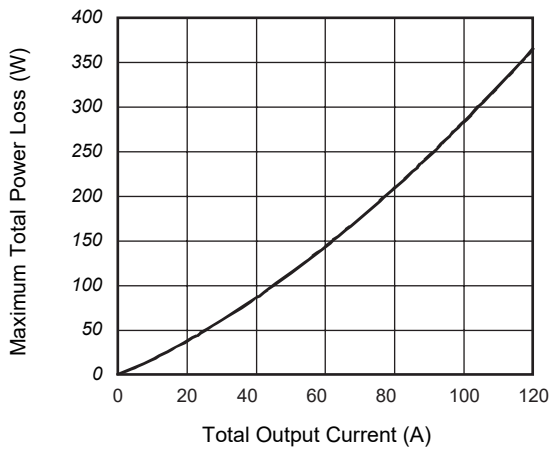


Fig. 3 - Total Power Loss Characteristics

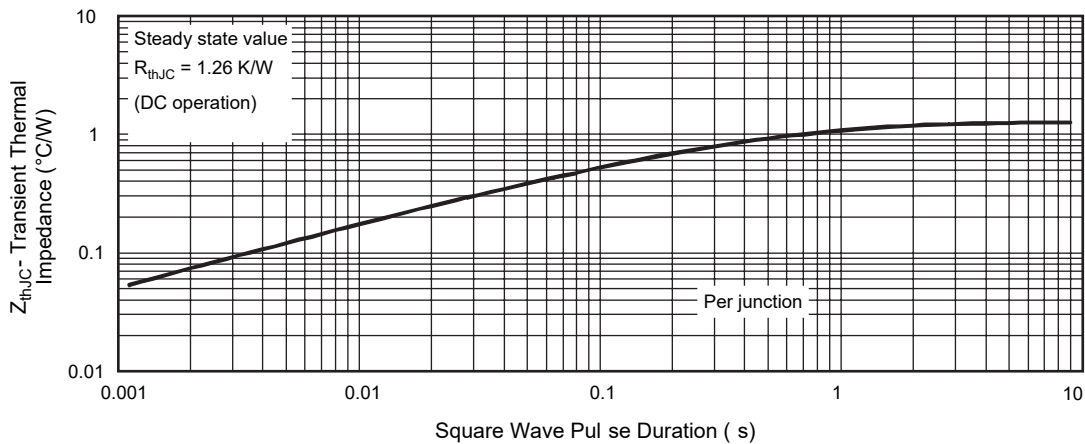


Fig. 4 - Thermal Impedance  $Z_{thJC}$  Characteristic

