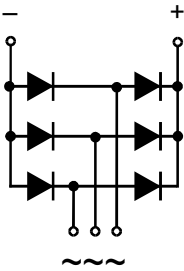


# S3PDB160N16

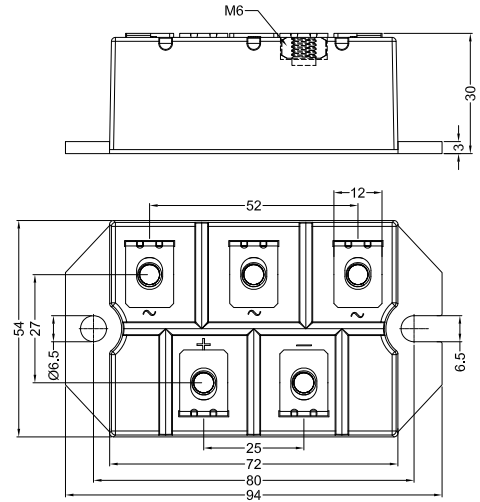
## Three Phase Rectifier Modules



Type	V <sub>RSM</sub> V	V <sub>RRM</sub> V
S3PDB160N08	900	800
S3PDB160N12	1300	1200
S3PDB160N14	1500	1400
S3PDB160N16	1700	1600
S3PDB160N18	1900	1800



### Dimensions in mm



Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>dav</sub>	T <sub>C</sub> =110°C, module	160	A
P <sub>RSM</sub>	T <sub>VJ</sub> = T <sub>VJM</sub> , t <sub>p</sub> = 10μs	20	KW
I <sub>FSM</sub>	T <sub>VJ</sub> =45°C V <sub>R</sub> =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	2280 2500	A
	T <sub>VJ</sub> =T <sub>VJM</sub> V <sub>R</sub> =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	2050 2250	
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	43000 43000	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...+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 (M6) Terminal connection torque (M6)	5 ± 15% 5 ± 15%	Nm
Weight	typical	262	g

**Sirectifier®**

# S3PDB160N16

## Three Phase Rectifier Modules

Symbol	Test Conditions	Characteristic Values	Unit
$I_R$	$V_R=V_{RRM}; T_{VJ}=25^{\circ}C$ $V_R=V_{RRM}; T_{VJ}=T_{VJM}$	$\leq 0.3$ $\leq 5$	mA
$V_F$	$I_F=160A; T_{VJ}=25^{\circ}C$	$\leq 1.20$	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	0.72 0.12	K/W
$R_{thJK}$	per diode per module	1.02 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
- \* High reverse avalanche energy
- \* Isolation voltage 3000 V~
- \* Glass passivated chips
- \* Blocking voltage up to 1800 V
- \* Low forward voltage drop
- \* **UL File No. 310749**
- \* 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

# S3PDB160N16

## Three Phase Rectifier Modules

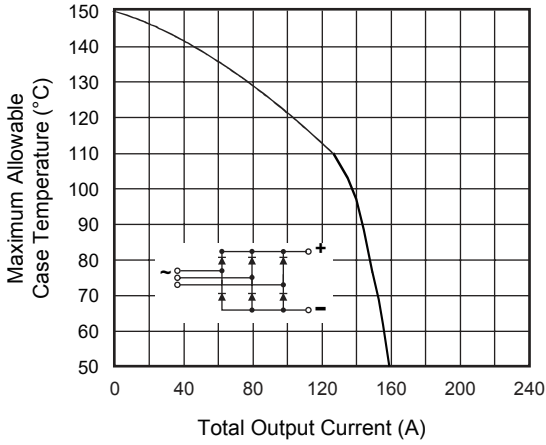


Fig. 1 - Current Ratings Characteristic

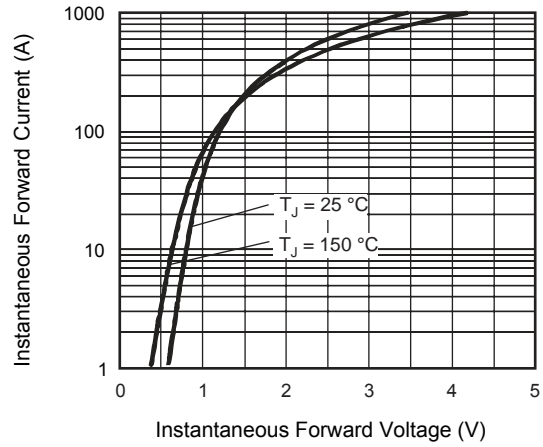


Fig. 2 - Forward Voltage Drop Characteristics

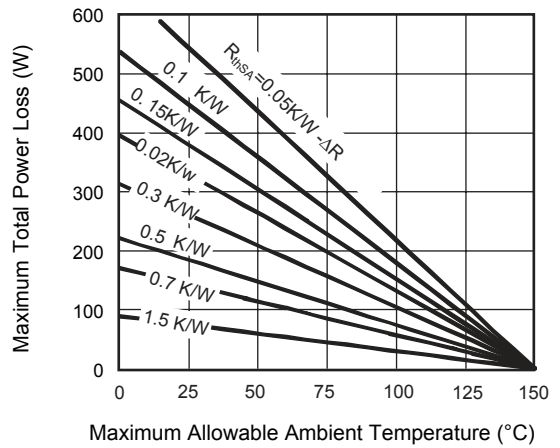
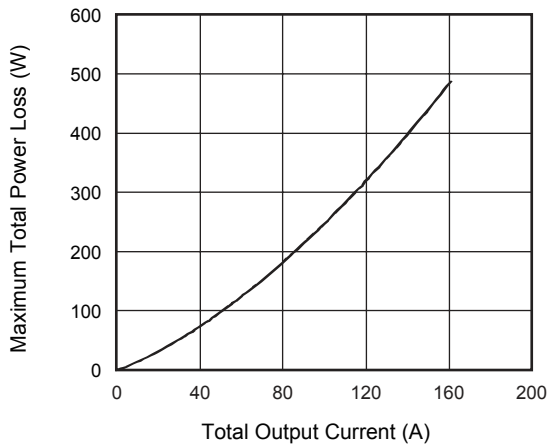


Fig. 3 - Total Power Loss Characteristics

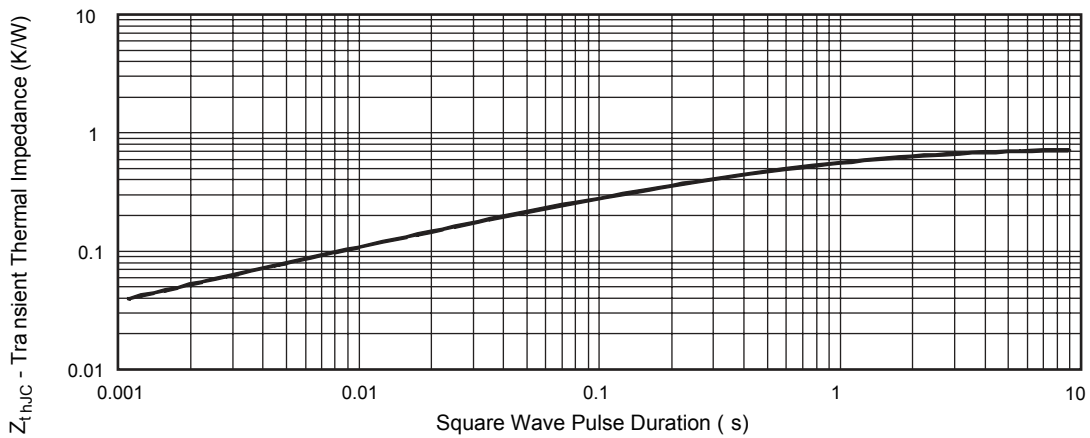


Fig. 4 - Thermal Impedance  $Z_{thJC}$  Characteristic