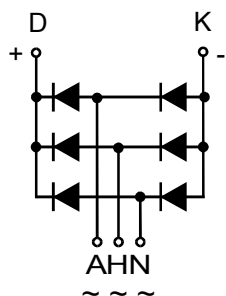
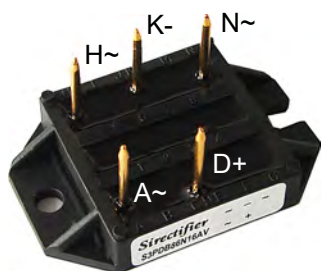


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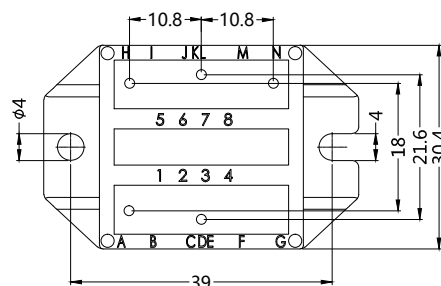
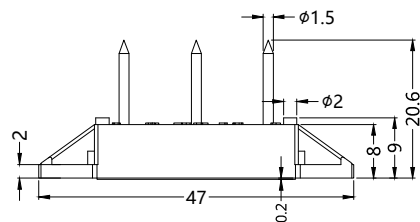
Three Phase Rectifier Modules



Type	V_{RSM} V	V_{RRM} V
S3PDB86N08	900	800
S3PDB86N12	1300	1200
S3PDB86N14	1500	1400
S3PDB86N16	1700	1600
S3PDB86N18	1900	1800



Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions	Maximum Ratings	Unit
I_{dav}	$T_C=90^{\circ}C$, module	86	A
I_{FSM}	$T_{VJ}=45^{\circ}C$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	530 570	A
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	480 520	
I^2t	$T_{VJ}=45^{\circ}C$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	1400 1360	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	1150 1140	
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+125	$^{\circ}C$
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1mA$ $t=1min$ $t=1s$	2500 3000	V~
M_d	Mounting torque (M4)	1.5-2 14-18	Nm lb.in.
Weight	typical	18	g

S3PDB86

Three Phase Rectifier Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}; T_{VJ}=25^{\circ}C$ $V_R=V_{RRM}; T_{VJ}=T_{VJM}$	≤ 0.5 ≤ 3	mA
V_F	$I_F=80A; T_{VJ}=25^{\circ}C$	≤ 1.50	V
V_{TO}	For power-loss calculations only	0.8	V
r_T		7.5	m Ω
R_{thJC}	per diode; DC current per module	1.2 0.2	K/W
R_{thJK}	per diode; DC current per module	1.5 0.25	K/W
d_s	Creeping distance on surface	11.2	mm
d_A	Creepage distance in air	9.7	mm
a	Max. allowable acceleration	50	m/s ²

FEATURES

- * Package with DCB base plate
- * Reverse Breakdown with Avalanche behavior
- * Isolation voltage 3000 V~
- * Glass passivated chips
- * Leads suitable for PCB soldering
- * Low forward voltage drop
- * UL File NO.E310749
- * 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

S3PDB86

Three Phase Rectifier Modules

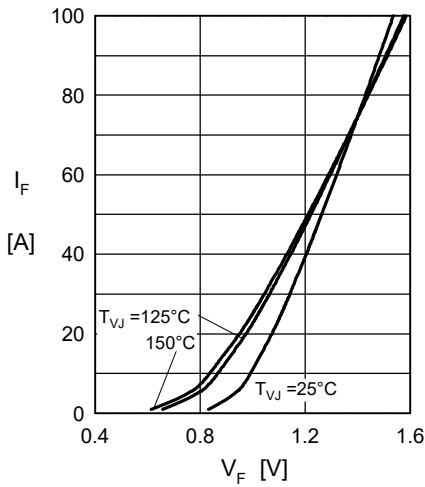


Fig. 1 Forward current versus voltage drop per diode

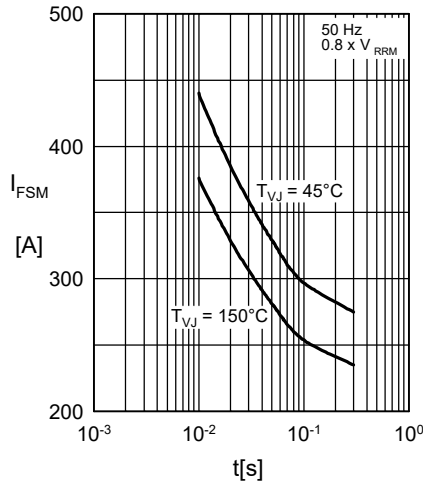


Fig. 2 Surge overload current

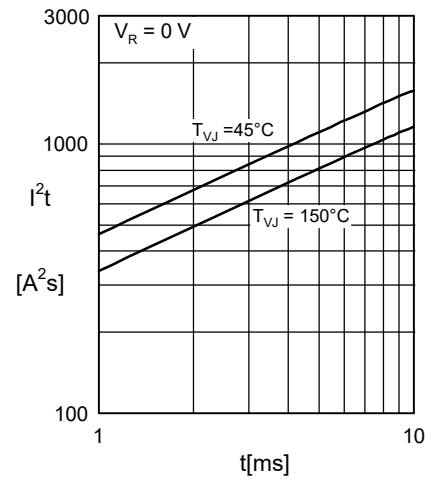


Fig. 3 I^2t versus time per diode

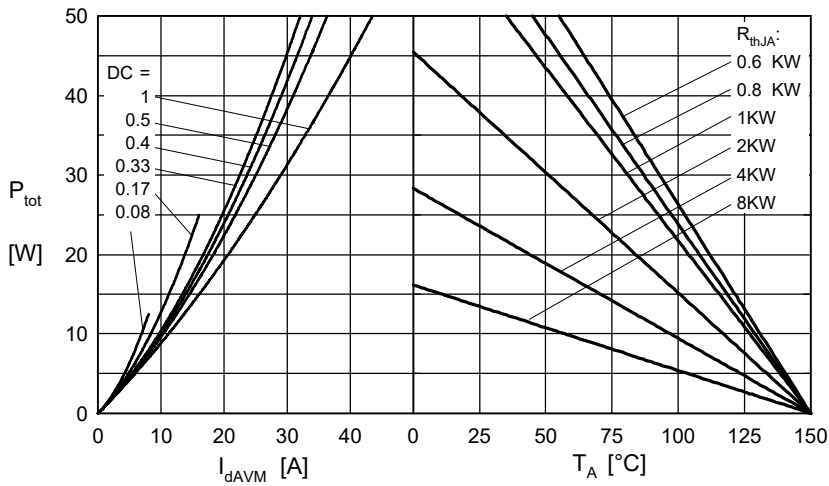


Fig. 4 Power dissipation vs. direct output current & ambient temperature

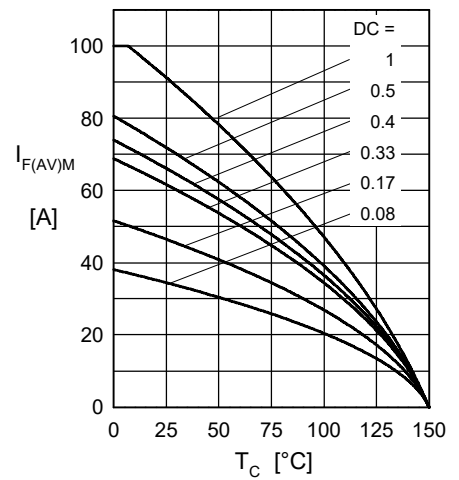


Fig. 5 Max. forward current vs. case temperature

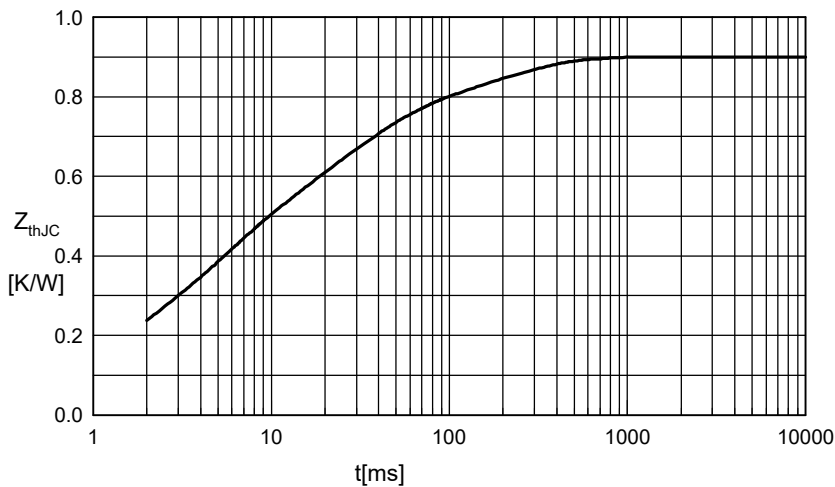


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.0607	0.000
2	0.1230	0.00256
3	0.2330	0.0045
4	0.3230	0.0242
5	0.1628	0.18