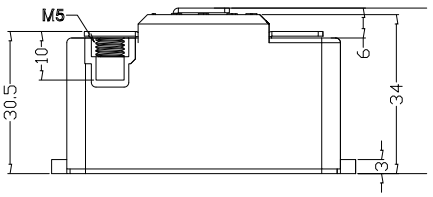
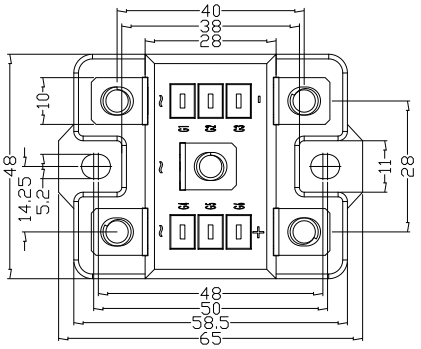
S3PDB61NXX

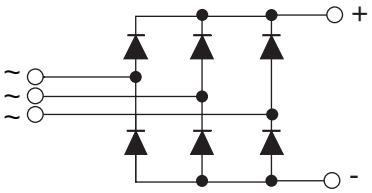
Three Phase Rectifier Modules

Type	V_{RSM} V	V_{RRM} V
S3PDB61N08	900	800
S3PDB61N12	1300	1200
S3PDB61N14	1500	1400
S3PDB61N16	1700	1600
S3PDB61N18	1900	1800

Dimensions in mm (1mm=0.0394")







Symbol	Test Conditions		Maximum Ratings	Unit
I_{dav} I_{dav}	T_C=100°C, module T_A=45°C (R_{thCA}=0.6K/W), module		61 14	A
I_{FSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	850 900	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	750 960	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	3600 3900	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	3000 3600	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+150	°C
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤1mA	t=1min t=1s	2500 3000	V~
M_d	Mounting torque (M5) Terminal connection torque (M5)		5 ± 15% 5 ± 15%	Nm
Weight	typ.		160	g

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S3PDB61

Three Phase Rectifier Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}$; $T_{VJ}=25^oC$ $V_R=V_{RRM}$; $T_{VJ}=T_{VJM}$	≤ 0.3 ≤ 5	mA
V_F	I_F=60A; T_{VJ}=25 ^oC	≤ 1.25	V
V_{TO}	For power-loss calculations only	0.85	V
r_T	$T_{VJ}=T_{VJM}$	5	mΩ
R_{thJC}	per diode per module	0.96 0.16	K/W
R_{thJK}	per diode per module	1.60 0.27	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
* Package with screw terminals
* Isolation voltage 3000 V~
* Blocking voltage up to 1800 V
* Low forward voltage drop

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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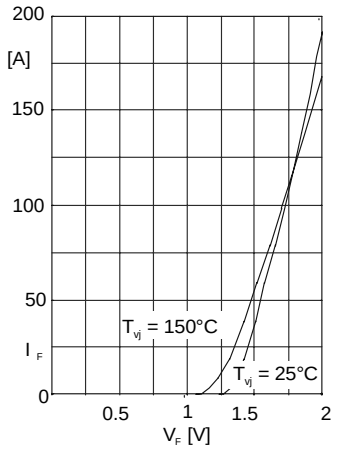

Fig. 1 Forward current versus voltage drop per diode

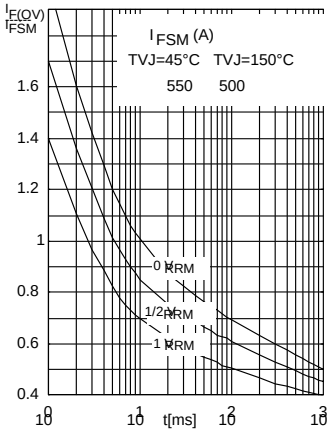

Fig. 2 Surge overload current per diode I_{FSM}: Crest value. t: duration

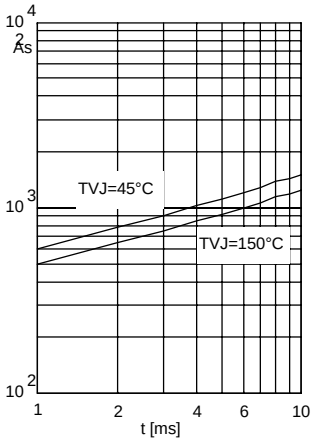

Fig. 3 $\int i^2dt$ versus time (1-10ms) per diode (or thyristor)

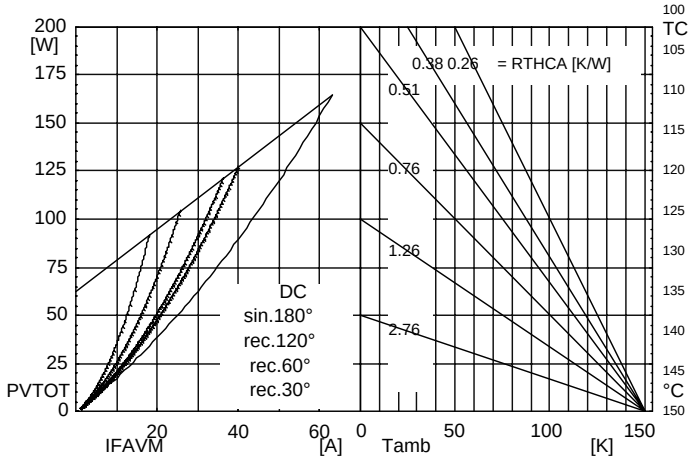

Fig. 4 Power dissipation versus direct output current and ambient temperature

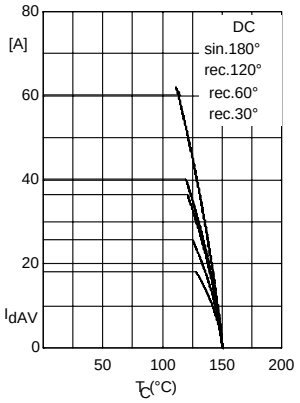

Fig.5 Maximum forward current at case temperature

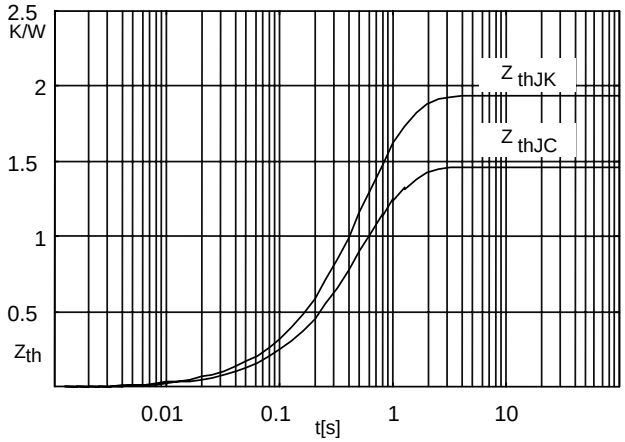

Fig. 6 Transient thermal impedance per diode calculated

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