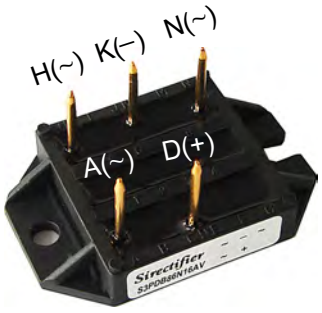
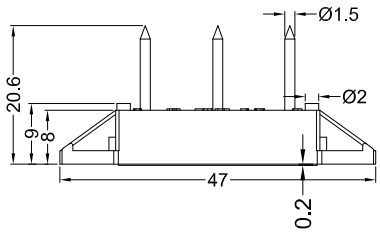
S3PDBF75N12E1

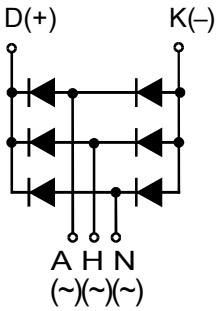
Three Phase Rectifier Bridge with FRED



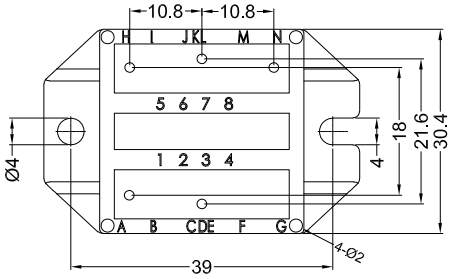
Type	V_{RSM} V	V_{RRM} V
S3PDBF75N12E1	1200	1200

Dimensions in mm (1mm=0.0394")





I_{dAV}= 75A
V_{RRM}=1200 V
trr = 40 ns



Symbol	Test Conditions		Maximum Ratings	Unit
I_{dav}	T_C=85°C, module		75	A
I_{FSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	200 220	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	170 190	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	200 210	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	145 150	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+125	°C
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤1mA	t=1min t=1s	3000 3600	V~
M_d	Mounting torque (M4)		1.5-2 14-18	Nm lb.in.
Weight	typical		18	g

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S3PDBF75N12E1

Three Phase Rectifier Bridge with FRED

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}$; $T_{VJ}=25^oC$ $V_R=V_{RRM}$; $T_{VJ}=T_{VJM}$	≤0.25 ≤ 1.0	mA
V_F	I_F=30A; $T_{VJ}=25^oC$	≤ 2.50	V
V_{FO}	For power-loss calculations only	1.28	V
r_F		15	mΩ
R_{thJC}	per diode; DC current per module	0.9 0.3	K/W
t_{rr}	I_F = 1A; -di/dt = 200 A/μs; V_R = 30 V; T_{VJ} = 25°C	40	ns
I_{RM}	I_F = 50 A; -di_F/dt = 100 A/μs; V_R = 100 V; L = 0.05 mH; T_{VJ} = 100°C	7.6	A
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
* Isolation voltage 3000 V~
* Planar passivated chips
* Leads suitable for PCB soldering
* Low forward voltage drop
* RoHS compliant

APPLICATIONS

* Supplies for DC power equipment
* Input and Output rectifiers for high frequency
* 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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Three Phase Rectifier Bridge with FRED

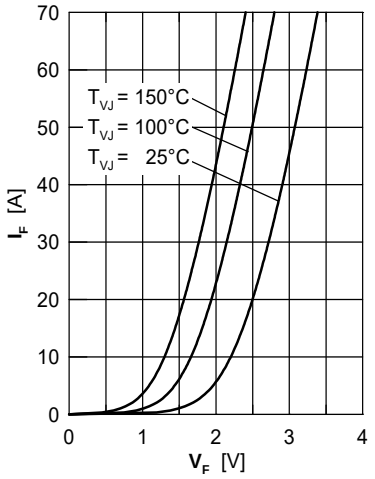


Fig. 1 Forward current I_F vs. V_F

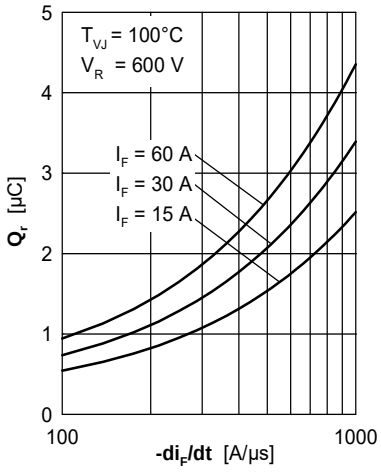


Fig. 2 Reverse recovery charge Qr versus -di_F/dt

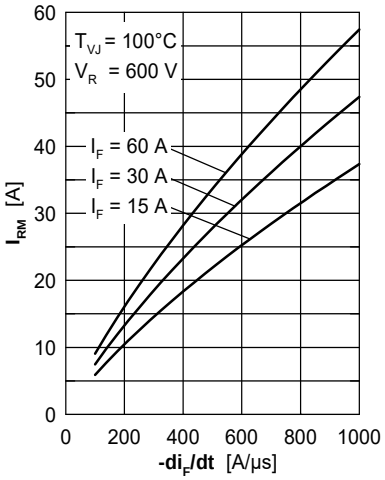


Fig. 3 Peak reverse current I_{RM} versus -di_F/dt

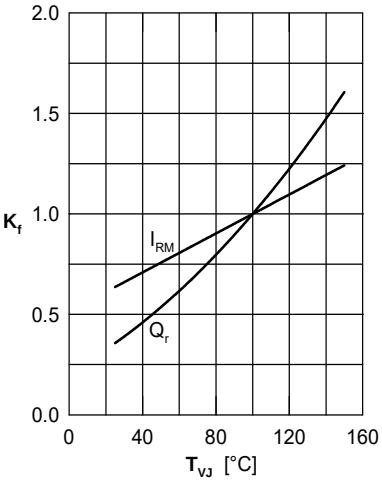


Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

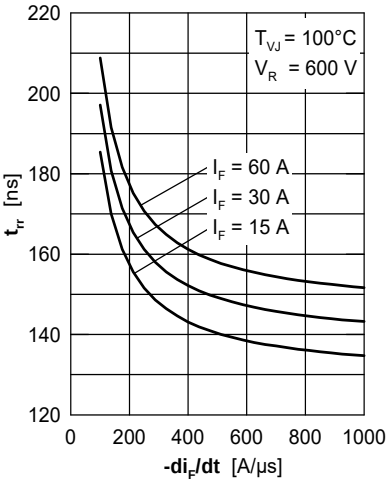


Fig. 5 Recovery time t_{rr} vs. -di_F/dt

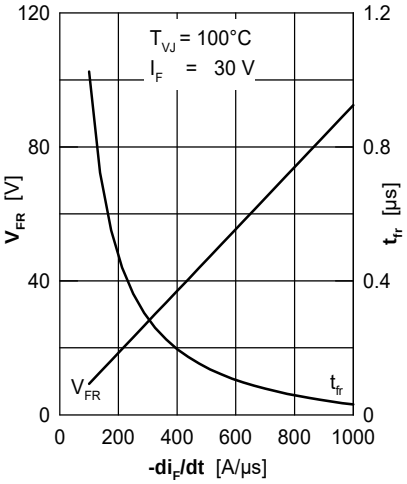


Fig. 6 Peak forward voltage V_{FR} and t_{fr} versus di_F/dt

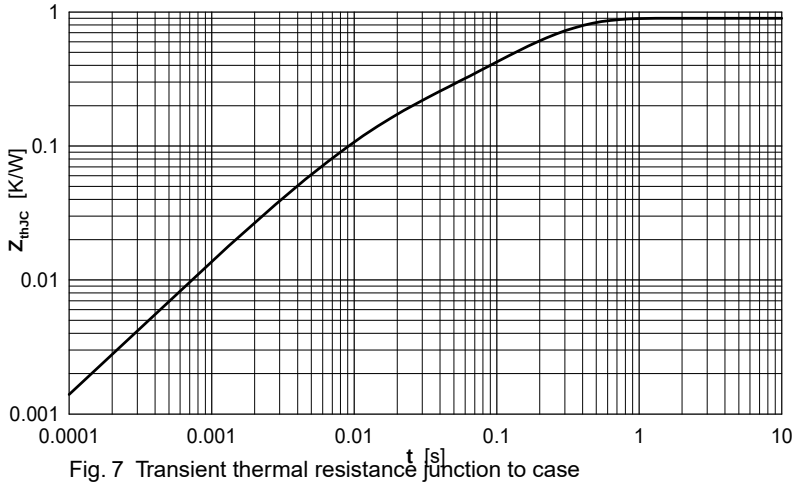


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.3012	0.0052
2	0.116	0.0003
3	0.0241	0.0004
4	0.4586	0.0092

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