Single Phase Rectifier Bridge

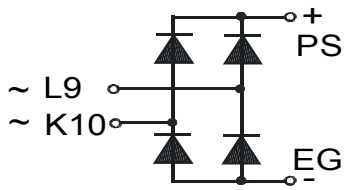
PSB 100F

with fast Recovery Epitaxial Diode (FRED)

I_{dAV} = 100 A
V_{RRM} = 800 - 1200 V
t_{rr} = 40 ns

Preliminary Data Sheet

V_{RSM} V_{DSM} (V)	V_{RRM} V_{DRM} (V)	Type
800	800	PSB 100F/08
1200	1200	PSB 100F/12



Symbol	Test Conditions			Maximum Ratings	
I^*_{dAV}	T_C = 75 °C,	(per module)		100	A
I_{FSM}	T_{VJ} = 45 °C	t = 10 ms	(50 Hz), sine	500	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	550	A
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	450	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	500	A
$\int i^2 dt$	T_{VJ} = 45 °C	t = 10 ms	(50 Hz), sine	1250	A²s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	1250	A²s
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	1010	A²s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	1040	A²s
T_{VJ}				-40... + 150	°C
T_{VJM}				150	°C
T_{stg}				-40... + 125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min		3000	V~
	I_{ISOL} ≤ 1 mA	t = 1 s		3600	V~
M_d	Mounting torque		(M4)	1.5 - 2.0	Nm
				14 - 18	lb.in.
Weight	typ.			22	g

Symbol	Test Conditions		Characteristic Value	
I_R	V_R = V_{RRM}, T_{VJ} = T_{VJM}	≤	2.5	mA
	V_R = V_{RRM}, T_{VJ} = 25°C	≤	0.65	mA
V_F	I_F = 60 A, T_{VJ} = 25 °C	≤	1.75	V
V_{TO}	For power-loss calculations only		1.12	V
r_T			5.7	mΩ
R_{thJC}	per diode; DC		0.85	K/W
	per module		0.21	K/W
R_{thJK}	per diode; DC		1.0	K/W
	per module		0.25	K/W
I_{RM}	I_F=130A; -di_F/dt=100A/µs; V_R=100V		typ. 7.8	A
	L=0.05 mH; T_{VJ}= 100°C			
t_{rr}	I_F=1A; -di_F/dt=200A/µs; V_R=30V;		typ. 40	ns
	T_{VJ}= 25°C			
d_s	Creeping distance on surface		11.2	mm
d_A	Creeping distance in air		9.45	mm
a	Max. allowable acceleration		50	m/s²

Data according to IEC 60747 refer to a single diode unless otherwise stated
*- for resistive load at bridge output

Features

- Package with DCB ceramic base plate
- Isolation voltage 3000 V~
- Planar glass passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering
- UL registered, E 148688

Applications

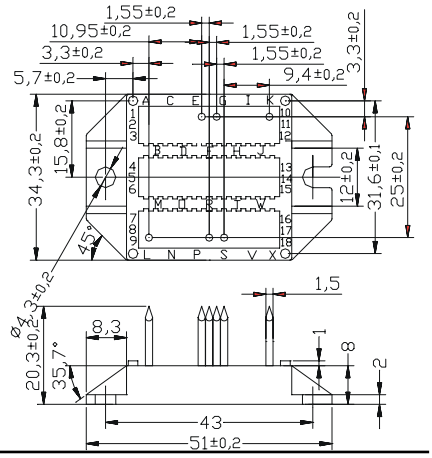
- Supplies for DC power equipment
- Input and output rectifier for high frequency
- Battery DC power supplies
- Field supply for DC motors

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability
- Low noise switching
- Small and light weight

Package style and outline

Dimensions in mm (1mm = 0.0394")



POWERSEM GmbH, Walpersdorfer Str. 53
D - 91126 Schwabach
Phone: 09122 - 9764 - 0 FAX: 09122 - 9764 - 20

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