

Single Phase Rectifier Bridge

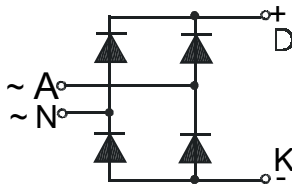
with fast Recovery Epitaxial Diode (FRED)

PSB 33F

$$\begin{aligned} I_{\text{dAV}} &= 44 \text{ A} \\ V_{\text{RRM}} &= 400 - 600 \text{ V} \\ t_{\text{rr}} &= 35 \text{ ns} \end{aligned}$$

Preliminary Data Sheet

V_{RSM} V_{DSM} (V)	V_{RRM} V_{DRM} (V)	Type
400	400	PSB 33F/04
600	600	PSB 33F/06



Symbol	Test Conditions	Maximum Ratings
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I_{dAV}^*	$T_C = 85\text{ }^\circ\text{C}$, (per module)	44	A
I_{dAVM}		90	A
I_{FSM}	$T_{VJ} = 45\text{ }^\circ\text{C}$ $t = 10\text{ ms}$ (50 Hz), sine	110	A
	$V_R = 0$ $t = 8.3\text{ ms}$ (60 Hz), sine	120	A
	$T_{VJ} = T_{VJM}$ $t = 10\text{ ms}$ (50 Hz), sine	95	A
	$V_R = 0$ $t = 8.3\text{ ms}$ (60 Hz), sine	105	A
$\int i^2 dt$	$T_{VJ} = 45\text{ }^\circ\text{C}$ $t = 10\text{ ms}$ (50 Hz), sine	60	A ² s
	$V_R = 0$ $t = 8.3\text{ ms}$ (60 Hz), sine	60	A ² s
	$T_{VJ} = T_{VJM}$ $t = 10\text{ ms}$ (50 Hz), sine	45	A ² s
	$V_R = 0$ $t = 8.3\text{ ms}$ (60 Hz), sine	45	A ² s
T_{VJ}		-40... + 150	°C
T_{VJM}		150	°C
T_{stg}		-40... + 125	°C
V_{ISOL}	50/60 Hz, RMS $t = 1\text{ min}$	3000	V~
	$I_{ISOL} \leq 1\text{ mA}$ $t = 1\text{ s}$	3600	V~
M_d	Mounting torque (M4)	1.5 - 1.8	Nm
		14 - 16	lb.in.
Weight	typ.	16	g

Symbol	Test Conditions	Characteristic Value
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I_R	$V_R = V_{RRM}, T_{VJ} = T_{VJM}$	$\leq$	0.5	mA
	$V_R = V_{RRM}, T_{VJ} = 25^\circ\text{C}$	$\leq$	0.1	mA
V_F	$I_F = 15\text{ A}, T_{VJ} = 25^\circ\text{C}$	$\leq$	2.01	V
V_{TO}	For power-loss calculations only		1.13	V
r_T			13	mΩ
R_{thJC}	per diode; DC		1.6	K/W
	per module		0.4	K/W
R_{thJK}	per diode; DC		1.9	K/W
	per module		0.48	K/W
I_{RM}	$I_F=25\text{A}; -di_F/dt=100\text{A}/\mu\text{s}; V_R=100\text{V}$		typ. 4	A
	$L=0.05\text{ mH}; T_{VJ}= 100^\circ\text{C}$			
t_{rr}	$I_F=1\text{A}; -di_F/dt=100\text{A}/\mu\text{s}; V_R=30\text{V};$		typ. 35	ns
	$T_{VJ}= 25^\circ\text{C}$			
d_s	Creeping distance on surface		11.2	mm
d_A	Creeping distance in air		9.7	mm
a	Max. allowable acceleration		50	m/s ²

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

Features

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- 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")

