

# POWERSEM

## ECO-PAC™ 1

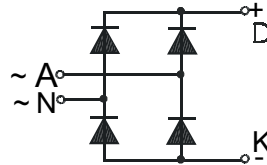
### Single Phase Rectifier Bridge

### PSB 21

$I_{dAV}$  = 21 A  
 $V_{RRM}$  = 600-1200 V

Preliminary Data Sheet

$V_{RSM}$ $V_{DSM}$ (V)	$V_{RRM}$ $V_{DRM}$ (V)	Type
700	600	PSB 21/06
900	800	PSB 21/08
1300	1200	PSB 21/12



#### 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

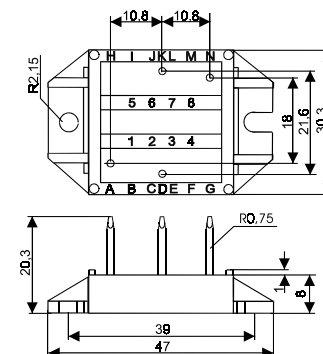
- Supplies for DC power equipment
- Input rectifier for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

#### Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability
- High power density
- Small and light weight

#### Package style and outline

Dimensions in mm (1mm = 0.0394")



Symbol	Test Conditions	Maximum Ratings
$I_{dAV}^*$	$T_C = 100\text{ }^\circ\text{C}$ , (per module)	21 A
$I_{FSM}$	$T_{VJ} = 45\text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine	100 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	106 A
	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	85 A
$\int i^2 dt$	$V_R = 0$ t = 8.3 ms (60 Hz), sine	90 A
	$T_{VJ} = 45\text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine	50 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	47 A <sup>2</sup> s
$T_{VJ}$	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	36 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	33 A <sup>2</sup> s
	$T_{stg}$	
$T_{VJM}$		150 °C
$T_{stg}$		-40... + 125 °C
$V_{ISOL}$	50/60 Hz, RMS t = 1 min	2500 V~
	$I_{ISOL} \leq 1\text{ mA}$ t = 1 s	3000 V~
$M_d$	Mounting torque (M4)	1.5 - 1.8 Nm
		14 - 16 lb.in.
<b>Weight</b>	typ.	16 g

Symbol	Test Conditions	Characteristic Value
$I_R$	$V_R = V_{RRM}$ , $T_{VJ} = T_{VJM}$	$\leq 0.3$ mA
	$V_R = V_{RRM}$ , $T_{VJ} = 25\text{ }^\circ\text{C}$	$\leq 5$ mA
$V_F$	$I_F = 7\text{ A}$ , $T_{VJ} = 25\text{ }^\circ\text{C}$	$\leq 1.12$ V
$V_{TO}$	For power-loss calculations only	0.8 V
$r_T$		40 mΩ
$R_{thJC}$	per diode; DC	2.3 K/W
	per module	0.575 K/W
$R_{thJH}$	per diode; DC	2.8 K/W
	per module	0.7 K/W
$d_s$	Creeping distance on surface	11.2 mm
$d_A$	Creeping distance in air	9.7 mm
$a$	Max. allowable acceleration	50 m/s <sup>2</sup>

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

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