

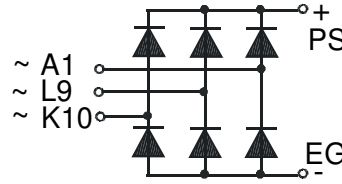
## Three Phase Rectifier Bridge

## PSD 150F

with fast Recovery Epitaxial Diode (FRED)

Preliminary Data Sheet

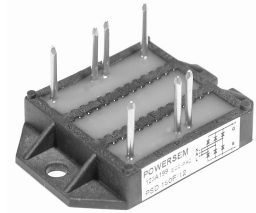
$V_{RSM}$ $V_{DSM}$ (V)	$V_{RRM}$ $V_{DRM}$ (V)	Type
400	400	PSD 150F/04
600	600	PSD 150F/06



$$I_{dAV} = 130 \text{ A}$$

$$V_{RRM} = 400 - 600 \text{ V}$$

$$t_{rr} = 35 \text{ ns}$$



Symbol	Test Conditions	Maximum Ratings
$I_{dAV}^*$	$T_C = 85 \text{ }^\circ\text{C}$ , (per module)	130 A
$I_{FSM}$	$T_{VJ} = 45 \text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine	600 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	660 A
	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	540 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	590 A
$\int i^2 dt$	$T_{VJ} = 45 \text{ }^\circ\text{C}$ t = 10 ms (50 Hz), sine	1800 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	1810 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	1450 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	1440 A <sup>2</sup> s
$T_{VJ}$		-40... + 150 °C
$T_{VJM}$		150 °C
$T_{stg}$		-40... + 125 °C
$V_{ISOL}$	50/60 Hz, RMS t = 1 min	3000 V~
	$I_{ISOL} \leq 1 \text{ mA}$ t = 1 s	3600 V~
$M_d$	Mounting torque (M4)	1.5 - 2.0 Nm
		14 - 18 lb.in.
<b>Weight</b>	typ.	22 g

### 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

Symbol	Test Conditions	Characteristic Value
$I_R$	$V_R = V_{RRM}, T_{VJ} = T_{VJM}$	$\leq 2.5$ mA
	$V_R = V_{RRM}, T_{VJ} = 25 \text{ }^\circ\text{C}$	$\leq 0.65$ mA
$V_F$	$I_F = 60 \text{ A}, T_{VJ} = 25 \text{ }^\circ\text{C}$	$\leq 1.80$ V
$V_{TO}$	For power-loss calculations only	1.09 V
$r_T$		4.3 mΩ
$R_{thJC}$	per diode; DC	0.85 K/W
	per module	0.14 K/W
$R_{thJK}$	per diode; DC	1.0 K/W
	per module	0.16 K/W
$I_{RM}$	$I_F = 130 \text{ A}; -di_F/dt = 100 \text{ A}/\mu\text{s}; V_R = 100 \text{ V}$ $L = 0.05 \text{ mH}; T_{VJ} = 100 \text{ }^\circ\text{C}$	typ. 4.0 A
$t_{rr}$	$I_F = 1 \text{ A}; -di_F/dt = 200 \text{ A}/\mu\text{s}; V_R = 30 \text{ V};$ $T_{VJ} = 25 \text{ }^\circ\text{C}$	typ. 35 ns
$d_s$	Creeping distance on surface	11.2 mm
$d_A$	Creeping distance in air	9.45 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

### Package style and outline

Dimensions in mm (1 mm = 0.0394")

