

## Three Phase Rectifier Bridge

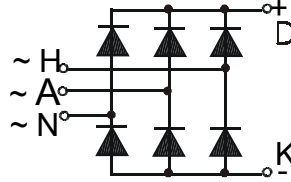
## PSD 43F

with fast Recovery Epitaxial Diode (FRED)

$I_{dAV}$  = 40 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	PSD 43F/08
1200	1200	PSD 43F/12



Symbol	Test Conditions	Maximum Ratings
$I_{dAV}^*$	$T_C = 85^\circ\text{C}$ , (per module)	40 A
$I_{dAVM}$		90 A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ t = 10 ms (50 Hz), sine	90 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	100 A
	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	75 A
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	85 A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$ t = 10 ms (50 Hz), sine	40 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	40 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ t = 10 ms (50 Hz), sine	30 A <sup>2</sup> s
	$V_R = 0$ t = 8.3 ms (60 Hz), sine	30 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	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
$I_R$	$V_R = V_{RRM}, T_{VJ} = T_{VJM}$	$\leq 0.5$ mA
	$V_R = V_{RRM}, T_{VJ} = 25^\circ\text{C}$	$\leq 0.1$ mA
$V_F$	$I_F = 15\text{ A}, T_{VJ} = 25^\circ\text{C}$	$\leq 2.73$ V
$V_{TO}$	For power-loss calculations only	1.32 V
$r_T$		30 mΩ
$R_{thJC}$	per diode; DC	1.6 K/W
	per module	0.27 K/W
$R_{thJK}$	per diode; DC	1.9 K/W
	per module	0.32 K/W
$I_{RM}$	$I_F = 25\text{ A}; -di_F/dt = 100\text{ A}/\mu\text{s}; V_R = 100\text{ V}$ $L = 0.05\text{ mH}; T_{VJ} = 100^\circ\text{C}$	typ. 5 A
$t_{rr}$	$I_F = 1\text{ A}; -di_F/dt = 100\text{ A}/\mu\text{s}; V_R = 30\text{ V};$ $T_{VJ} = 25^\circ\text{C}$	typ. 40 ns
$d_s$	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

### 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")

