

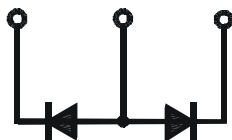
Fast Recovery Epitaxial Diode (FRED) Module

PSND 150E

I_{FAV} = 208 A
 V_{RRM} = 800-1200V

Preliminary Data Sheet

V_{RSM} V	V_{RRM} V	Type
800	800	PSND 150E/08
1000	1000	PSND 150E/10
1200	1200	PSND 150E/12



Symbol	Test Conditions			Maximum Ratings	
I_{FAV}	T _C = 70°C			208	A
I_{FSM}	T _{VJ} = 45°C	t = 10 ms	(50 Hz), sine	2500	A
	V _R = 0	t = 8.3 ms	(60 Hz), sine	2700	A
	T _{VJ} = T _{VJM}	t = 10 ms	(50 Hz), sine	2250	A
	V _R = 0	t = 8.3 ms	(60 Hz), sine	2400	A
∫ i² dt	T _{VJ} = 45°C	t = 10 ms	(50 Hz), sine	31200	A ² s
	V _R = 0	t = 8.3 ms	(60 Hz), sine	30200	A ² s
	T _{VJ} = T _{VJM}	t = 10 ms	(50 Hz), sine	25300	A ² s
	V _R = 0	t = 8.3 ms	(60 Hz), sine	23900	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 min		2500	V ~
	I _{ISOL} ≤ 1 mA	t = 1 s		3000	V ~
M_d	Mounting torque		(M6)	5	Nm
	Terminal connection torque		(M6)	5	Nm
Weight	typ.			270	g

Features

- Package with screw terminals
- Isolation voltage 3000 V~
- Planar glasspassivated chips
- Short recovery time
- Low forward voltage drop
- Short recovery behaviour
- UL registered, E 148688

Applications

- Inductive heating and melting
- Free wheeling diode in converters and motor control circuits
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Symbol	Test Conditions	Characteristic Value
I_R	$V_R = V_{RRM}$ $T_{VJ} = 25^{\circ}\text{C}$	max. 12 mA
	$V_R = 0.8 \bullet V_{RRM}$ $T_{VJ} = 25^{\circ}\text{C}$	max. 3 mA
	$V_R = 0.8 \bullet V_{RRM}$ $T_{VJ} = T_{VJM}$	max. 60 mA
V_F	$I_F = 150\text{ A}$ $T_{VJ} = 25^{\circ}\text{C}$	$\leq$ 1.55 V
t_{rr}	$T_{VJ} = 25^{\circ}\text{C}$; $I_F = 1\text{ A}$; $-di_F/dt = 400\text{ A}/\mu\text{s}$ $V_R = 30\text{ V}$	typ. 100 ns
I_{RM}	$IF = 100\text{ A}$; $-di_F/dt = 200\text{ A}/\mu\text{s}$; $V_R = 100\text{ V}$ $L \leq 0,05\text{ mH}$; $T_{VJ} = 100^{\circ}\text{C}$	typ. 48 A
V_{TO}	For power-loss calculations only	0.5 V
r_T	$T_{VJ} = T_{VJM}$	0.75 m Ω
R_{thJH}	per diode; DC current	0.57 K/W
R_{thJC}	per diode; DC current	0.42 K/W
d_S	Creeping distance on surface	10 mm
d_A	Creeping distance in air	9.4 mm
a	Max. allowable acceleration	50 m/s ²

Package, style and outline

Dimensions in mm (1mm = 0.0394")

