

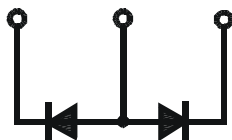
Fast Recovery Epitaxial Diode (FRED) Module

PSND 100E

$I_{FAV} = 136 \text{ A}$
 $V_{RRM} = 200\text{-}600\text{V}$

Preliminary Data Sheet

V_{RSM} V	V_{RRM} V	Type
200	200	PSND 100E/02
400	400	PSND 100E/04
600	600	PSND 100E/06



Symbol	Test Conditions			Maximum Ratings	
I_{FAV}	T _C = 70°C			136	A
I_{FSM}	T _{VJ} = 45°C	t = 10 ms	(50 Hz), sine	2000	A
	V _R = 0	t = 8.3 ms	(60 Hz), sine	2200	A
	T _{VJ} = T _{VJM}	t = 10 ms	(50 Hz), sine	1800	A
	V _R = 0	t = 8.3 ms	(60 Hz), sine	1980	A
∫ i² dt	T _{VJ} = 45°C	t = 10 ms	(50 Hz), sine	20000	A ² s
	V _R = 0	t = 8.3 ms	(60 Hz), sine	20080	A ² s
	T _{VJ} = T _{VJM}	t = 10 ms	(50 Hz), sine	16200	A ² s
	V _R = 0	t = 8.3 ms	(60 Hz), sine	16250	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

Symbol	Test Conditions	Characteristic Value
I_R	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	≤ 250 μA
	$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	≤ 2.5 mA
V_F	$I_F = 100\text{ A}$ $T_{VJ} = 25^\circ\text{C}$	≤ 1.25 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. 60 ns
I_{RM}	$I_F=100\text{A}$; $-di_F/dt=200\text{A}/\mu\text{s}$; $V_R=100\text{V}$ $L \leq 0,05\text{ mH}$; $T_{VJ} = 100^\circ\text{C}$	typ. 45 A
V_{TO}	For power-loss calculations only	0.45 V
r_T	$T_{VJ} = T_{VJM}$	1.25 $\text{m}\Omega$
R_{thJH}	per diode; DC current	0.84 K/W
R_{thJC}	per diode; DC current	0.65 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

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

Package, style and outline

Dimensions in mm (1mm = 0.0394")

