

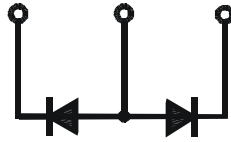
Fast Recovery Epitaxial Diode (FRED) Module

PSND 200E

$I_{FAV} = 408 \text{ A}$
 $V_{RRM} = 200\text{-}600 \text{ V}$

Preliminary Data Sheet

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



| Symbol | Test Conditions | Maximum Ratings |
|---------------|---|--------------------------------|
| I_{FAV} | $T_C = 70^\circ\text{C}$ | 408 A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine | 4000 A |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 4400 A |
| | $T_{VJ} = T_{VJM}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine | 3600 A |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 3900 A |
| $\int i^2 dt$ | $T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine | 80000 $\text{A}^2 \text{s}$ |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 80300 $\text{A}^2 \text{s}$ |
| | $T_{VJ} = T_{VJM}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine | 64800 $\text{A}^2 \text{s}$ |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 63100 $\text{A}^2 \text{s}$ |
| T_{VJ} | | -40 ... + 150 $^\circ\text{C}$ |
| T_{VJM} | | 150 $^\circ\text{C}$ |
| T_{stg} | | -40 ... + 125 $^\circ\text{C}$ |
| V_{ISOL} | 50/60 HZ, RMS $t = 1 \text{ min}$ | 2500 V ~ |
| | $I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$ | 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 | $V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$ | $\leq 5.0 \text{ mA}$ |
| | $V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$ | $\leq 30 \text{ mA}$ |
| V_F | $I_F = 200 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$ | $\leq 1.25 \text{ V}$ |
| t_{rr} | $T_{VJ} = 25^\circ\text{C}$ | typ. 150 ns |
| V_{TO} | For power-loss calculations only | 0.25 V |
| r_T | $T_{VJ} = T_{VJM}$ | 0.43 $\text{m}\Omega$ |
| R_{thJC} | per diode; DC current | 0.28 K/W |
| | per module | 0.14 K/W |
| R_{thJH} | per diode; DC current | 0.38 K/W |
| | per module | 0.19 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")

