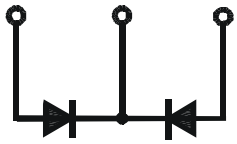
# Fast Recovery Epitaxial Diode (FRED) Module

**PSMD 200E**

$I_{FAV}$ = 312 A
$V_{RRM}$ = 800-1200V

Preliminary Data Sheet

| $V_{RSM}$ V | $V_{RRM}$ V | Type |
|---|---|---|
| 800 | 800 | PSMD 200E/08 |
| 1000 | 1000 | PSMD 200E/10 |
| 1200 | 1200 | PSMD 200E/12 |






| Symbol | Test Conditions | | | Maximum Ratings | |
|---|---|---|---|---|---|
| $I_{FAV}$ | $T_C$ = 70°C | | | 312 | A |
| $I_{FSM}$ | $T_{VJ}$ = 45°C | t = 10 ms | (50 Hz), sine | 3200 | A |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz), sine | 3500 | A |
| | $T_{VJ}$ = $T_{VJM}$ | t = 10 ms | (50 Hz), sine | 2900 | A |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz), sine | 3200 | A |
| $\int i^2 dt$ | $T_{VJ}$ = 45°C | t = 10 ms | (50 Hz), sine | 51200 | $A^2 s$ |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz), sine | 50800 | $A^2 s$ |
| | $T_{VJ}$ = $T_{VJM}$ | t = 10 ms | (50 Hz), sine | 42000 | $A^2 s$ |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz), sine | 42500 | $A^2 s$ |
| $T_{VJ}$ | | | | -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 |

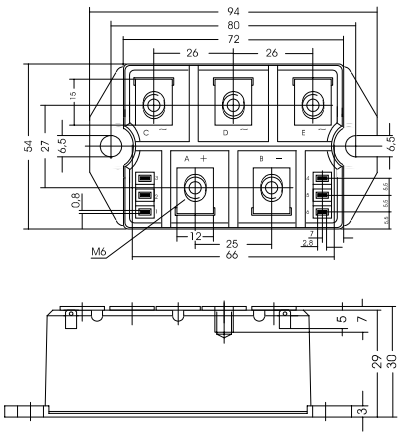
| Symbol | Test Conditions | | | Characteristic Value | |
|---|---|---|---|---|---|
| $I_R$ | $V_R$ = $V_{RRM}$ | $T_{VJ}$ = 25°C | ≤ | 3.4 | mA |
| | $V_R$ = $V_{RRM}$ | $T_{VJ}$ = $T_{VJM}$ | ≤ | 35 | mA |
| $V_F$ | $I_F$ = 200 A | $T_{VJ}$ = 25°C | ≤ | 1.55 | V |
| $t_{rr}$ | $T_{VJ}$ = 25°C | | | typ. 150 | ns |
| $V_{TO}$ | For power-loss calculations only | | | 0.3 | V |
| $r_T$ | $T_{VJ}$ = $T_{VJM}$ | | | 0.75 | mΩ |
| $R_{thJC}$ | per diode; DC current | | | 0.28 | K/W |
| | per module | | | 0.14 | |
| $R_{thJH}$ | per diode; DC current | | | 0.38 | K/W |
| | per module | | | 0.19 | |
| $d_S$ | 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“)




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