

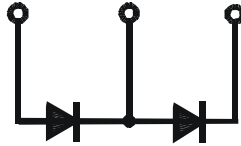
Fast Recovery Epitaxial Diode (FRED) Module

PSKD 75E

$I_{FAV} = 75 \text{ A}$
 $V_{RRM} = 800-1200 \text{ V}$

Preliminary Data Sheet

| V_{RSM} V | V_{RRM} V | Type |
|----------------|----------------|-------------|
| 800 | 800 | PSKD 75E/08 |
| 1000 | 1000 | PSKD 75E/10 |
| 1200 | 1200 | PSKD 75E/12 |



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

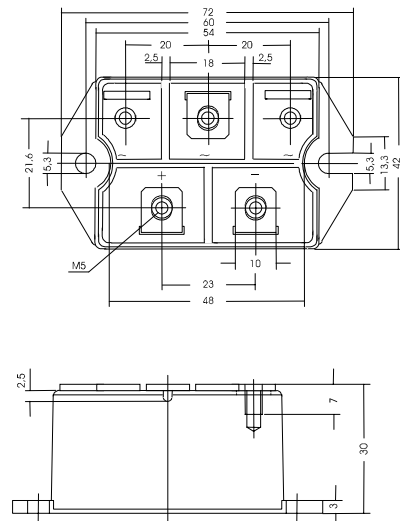
- Inductive heating and melting
- Free wheeling diode in converters and motor control circuits
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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")



| Symbol | Test Conditions | Maximum Ratings |
|---------------|--|--------------------------------|
| I_{FAV} | $T_C = 85^\circ\text{C}$ | 75 A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}$ $t = 10 \text{ ms}$ (50 Hz), sine | 1000 A |
| | $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine | 1100 A |
| | $T_{VJ} = T_{VJM}$ $t = 10 \text{ ms}$ (50 Hz), sine | 900 A |
| | $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine | 990 A |
| $\int i^2 dt$ | $T_{VJ} = 45^\circ\text{C}$ $t = 10 \text{ ms}$ (50 Hz), sine | 5000 $\text{A}^2 \text{ s}$ |
| | $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine | 5020 $\text{A}^2 \text{ s}$ |
| | $T_{VJ} = T_{VJM}$ $t = 10 \text{ ms}$ (50 Hz), sine | 4050 $\text{A}^2 \text{ s}$ |
| | $V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz), sine | 4060 $\text{A}^2 \text{ s}$ |
| 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 (M5) | 5 Nm |
| | Terminal connection torque (M5) | 5 Nm |
| Weight | typ. | 160 g |

| Symbol | Test Conditions | Characteristic Value |
|------------|--|------------------------|
| I_R | $V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$ | $\leq 250 \mu\text{A}$ |
| | $V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$ | $\leq 2.5 \text{ mA}$ |
| V_F | $I_F = 75 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$ | $\leq 2.0 \text{ V}$ |
| t_{rr} | $T_{VJ} = 25^\circ\text{C}$, $I_F = 1 \text{ A}$; $-di/dt = 100 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$ | typ. 100 ns |
| V_{TO} | For power-loss calculations only | 0.7 V |
| r_T | $T_{VJ} = T_{VJM}$ | 1.55 $\text{m}\Omega$ |
| R_{thJC} | per diode; DC current | 0.85 K/W |
| | per module | 0.43 K/W |
| R_{thJK} | per diode; DC current | 1.0 K/W |
| | per module | 0.5 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 |

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