

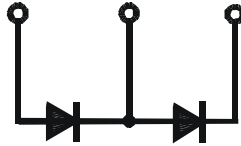
Fast Recovery Epitaxial Diode (FRED) Module

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

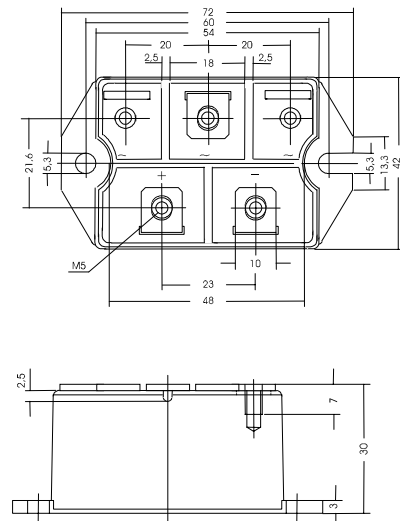
- Inductive heating and melting
- Free wheeling diode in converters and motor control circuits
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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