

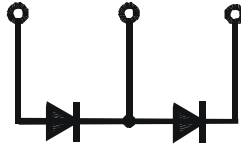
## Fast Recovery Epitaxial Diode (FRED) Module

### PSKD 75E

$I_{FAV} = 75 \text{ A}$   
 $V_{RRM} = 200-600 \text{ V}$

Preliminary Data Sheet

$V_{RSM}$ V	$V_{RRM}$ V	Type
200	200	PSKD 75E/02
400	400	PSKD 75E/04
600	600	PSKD 75E/06



### 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

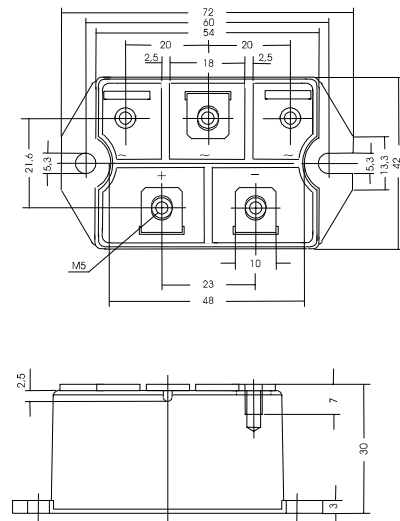
- Inductive heating and melting
- Free wheeling diode in converters and motor control circuits
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

### 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	1400 A
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	1540 A
	$T_{VJ} = T_{VJM}$	$t = 10 \text{ ms}$ (50 Hz), sine	1250 A
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	1370 A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms}$ (50 Hz), sine	9800 $\text{A}^2 \text{ s}$
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	9840 $\text{A}^2 \text{ s}$
	$T_{VJ} = T_{VJM}$	$t = 10 \text{ ms}$ (50 Hz), sine	7800 $\text{A}^2 \text{ s}$
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	7780 $\text{A}^2 \text{ s}$
$T_{VJ}$		-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
$I_R$	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	$\leq 250 \mu\text{A}$
	$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	$\leq 2.5 \text{ mA}$
$V_F$	$I_F = 75 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	$\leq 1.25 \text{ V}$
$t_{rr}$	$T_{VJ} = 25^\circ\text{C}$ , $I_F = 1 \text{ A}$ ; $-di/dt = 100 \text{ A}/\mu\text{s}$ ; $V_R = 30 \text{ V}$	typ. 60 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 $\text{m/s}^2$