

Fast Recovery Epitaxial Diode (FRED) Module

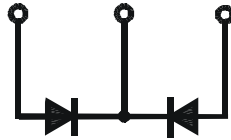
PSMD 200E

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

Preliminary Data Sheet



V_{RSM} V	V_{RRM} V	Type
200	200	PSMD 200E/02
400	400	PSMD 200E/04
600	600	PSMD 200E/06



Symbol	Test Conditions		Maximum Ratings	
I_{FAV}	$T_C = 70^\circ\text{C}$		408	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$	$t = 10\text{ ms}$ (50 Hz), sine	4000	A
		$t = 8.3\text{ ms}$ (60 Hz), sine	4400	A
	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (50 Hz), sine	3600	A
		$t = 8.3\text{ ms}$ (60 Hz), sine	3900	A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$	$t = 10\text{ ms}$ (50 Hz), sine	80000	$\text{A}^2\text{ s}$
		$t = 8.3\text{ ms}$ (60 Hz), sine	80300	$\text{A}^2\text{ s}$
	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (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}	$-40 \dots + 150$			$^\circ\text{C}$
T_{VJM}	150			$^\circ\text{C}$
T_{stg}	$-40 \dots + 125$			$^\circ\text{C}$
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	$V_R = V_{RRM}$	$T_{VJ} = 25^\circ\text{C}$	≤ 5.0	mA
	$V_R = V_{RRM}$	$T_{VJ} = T_{VJM}$	≤ 30	mA
V_F	$I_F = 200\text{ A}$	$T_{VJ} = 25^\circ\text{C}$	≤ 1.25	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	m Ω
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")

