

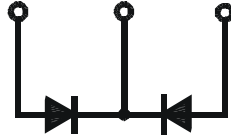
Fast Recovery Epitaxial Diode (FRED) Module

PSMD 100E

$I_{FAV} = 104 \text{ A}$
 $V_{RRM} = 800-1200 \text{ V}$

Preliminary Data Sheet

V_{RSM} V	V_{RRM} V	Type
800	800	PSMD 100E/08
1000	1000	PSMD 100E/10
1200	1200	PSMD 100E/12



Symbol	Test Conditions	Maximum Ratings		
I_{FAV}	$T_C = 70^\circ\text{C}$		104	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	1500	A
		$t = 8.3 \text{ ms}$ (60 Hz), sine	1650	A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	1350	A
		$t = 8.3 \text{ ms}$ (60 Hz), sine	1480	A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	11250	$\text{A}^2 \text{ s}$
		$t = 8.3 \text{ ms}$ (60 Hz), sine	11300	$\text{A}^2 \text{ s}$
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	9110	$\text{A}^2 \text{ s}$
		$t = 8.3 \text{ ms}$ (60 Hz), sine	9090	$\text{A}^2 \text{ s}$
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 $I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ min}$	2500	V ~
		$t = 1 \text{ s}$	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	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	\leq	250	μA
	$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	\leq	2.5	mA
V_F	$I_F = 100 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	\leq	1.55	V
t_{rr}	$T_{VJ} = 25^\circ\text{C}$; $I_F = 1 \text{ A}$; $-di_F/dt = 400 \text{ A}/\mu\text{s}$ $V_R = 30 \text{ V}$	typ.	100	ns
I_{RM}	$I_F = 100 \text{ A}$; $-di_F/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 100 \text{ V}$ $L \leq 0,05 \text{ mH}$; $T_{VJ} = 100^\circ\text{C}$	typ.	48	A
V_{TO}	For power-loss calculations only		0.7	V
r_T	$T_{VJ} = T_{VJM}$		1.8	$\text{m}\Omega$
R_{thJH}	per diode; DC current		0.84	K/W
R_{thJC}	per diode; DC current		0.65	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

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")

