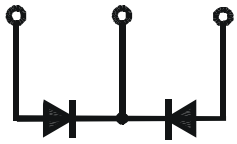
Fast Recovery Epitaxial Diode (FRED) Module

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°C			408	A
I_{FSM}	T_{VJ} = 45°C	t = 10 ms	(50 Hz), sine	4000	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	4400	A
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	3600	A
	V_R = 0	t = 8.3 ms	(60 Hz), sine	3900	A
$\int i^2 dt$	T_{VJ} = 45°C	t = 10 ms	(50 Hz), sine	80000	A^2 s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	80300	A^2 s
	T_{VJ} = T_{VJM}	t = 10 ms	(50 Hz), sine	64800	A^2 s
	V_R = 0	t = 8.3 ms	(60 Hz), sine	63100	A^2 s
T_{VJ}				-40 ... + 150	°C
T_{VJM}				150	°C
T_{stg}				-40 ... + 125	°C
V_{ISOL}	50/60 HZ, RMS	t = 1 min		2500	V ~
	I_{ISOL} ≤ 1 mA	t = 1 s		3000	V ~
M_d	Mounting torque		(M6)	5	Nm
	Terminal connection torque		(M6)	5	Nm
Weight	typ.			270	g

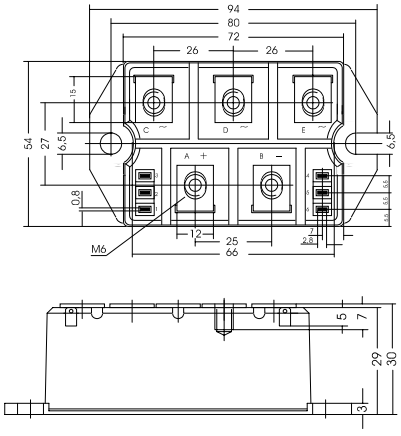
Symbol	Test Conditions			Characteristic Value	
I_R	V_R = V_{RRM}	T_{VJ} = 25°C	≤	5.0	mA
	V_R = V_{RRM}	T_{VJ} = T_{VJM}	≤	30	mA
V_F	I_F = 200 A	T_{VJ} = 25°C	≤	1.25	V
t_{rr}	T_{VJ} = 25°C			typ. 150	ns
V_{TO}	For power-loss calculations only			0.25	V
r_T	T_{VJ} = T_{VJM}			0.43	mΩ
R_{thJC}	per diode; 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“)



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