

Diode Module (F.R.D)

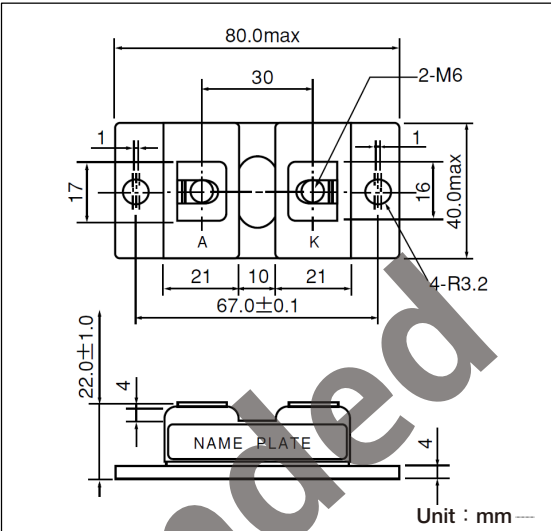
FRS300CA50

UL; E76102

《Features》
FRS300CA is a high speed (fast recovery) isolated diode module designed for high power switching application. FRS300CA is suitable for high frequency application requiring low loss and high speed control.

- High Speed $t_{rr} \leq 200\text{ns}$
- I_F (AV) 300A
- Isolated Mounting base
- High Surge Capability

《Applications》
• Inverter Welding Power Supply /
Power Supply for Telecommunication /
Various Switching Power Supply



■ Maximum Ratings (Tj=25°C unless otherwise specified)

Item	Symbol	Unit	FRS300CA50
Repetitive Peak Reverse Voltage	V_{RRM}	V	500
Reverse D.C. Voltage	$V_{R(DC)}$	V	400

Item	Symbol	Unit	Ratings	Conditions
Forward Current	I_F	A	300	D.C., $T_C=116^{\circ}\text{C}$
Surge Forward Current	I_{FSM}	A	4000	1/2cycle, 60Hz, Peak value, non-repetitive
I^2t (for fusing)	I^2t	A^2s	66600	Value for one cycle of surge current
Junction Temperature	T_j	$^{\circ}\text{C}$	-40 to +150	
Storage Temperature	T_{stg}	$^{\circ}\text{C}$	-40 to +125	
Isolation Breakdown Voltage(R.M.S.)	V_{ISO}	V	2500	A.C. 1minute
Mounting torque	Mounting (M6)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)	4.7(48)	Recommended Value 2.5 to 3.9 (25 to 40)
	Terminal (M6)		4.7(48)	Recommended Value 2.5 to 3.9 (25 to 40)
Mass		g	170	Typical value

■ Electrical Characteristics (Tj=25°C unless otherwise specified)

Item	Symbol	Unit	Ratings			Conditions
			Min.	Typ.	Max.	
Repetitive Peak Reverse Current	I_{RRM}	mA			300	$V_R=V_{RRM}$, $T_j=125^{\circ}\text{C}$
Forward Voltage Drop	V_{FM}	V			1.30	$I_F=300\text{A}$, Inst. measurement
Reverse recovery Time	t_{rr}	ns			200	$I_F=300\text{A}$, $-di/dt=300\text{A}/\mu\text{s}$
Thermal Resistance	$R_{th(j-c)}$	$^{\circ}\text{C}/\text{W}$			0.085	Junction to case

