

DIODE MODULE (F.R.D.)

FRS300CA50

UL;E76102 (M)

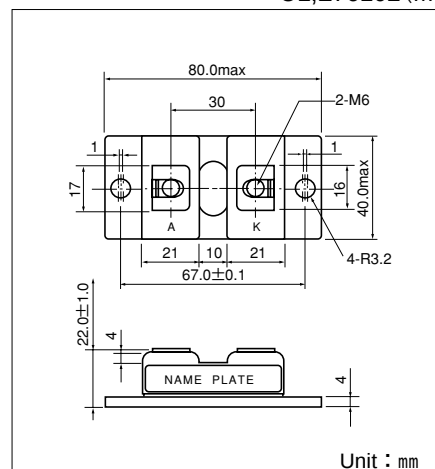
FRS300CA50 is a high speed (fast recovery) isolated diode module designed for high power switching application. **FRS300CA50** is suitable for high frequency application requiring low loss and high speed control.

- 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.

A $\circ \rightarrow \rightarrow \rightarrow \circ$ K



Maximum Ratings

($T_j = 25^\circ\text{C}$ unless otherwise specified)

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

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

Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	$V_{RRM} = 500\text{V}$, $T_j = 125^\circ\text{C}$			300	mA
V_{FM}	Forward Voltage Drop	$I_F = 300\text{A}$, Inst. measurement			1.3	V
t_{rr}	Reverse Recovery Time	$I_F = 300\text{A}$, $-di/dt = 300\text{A}/\mu\text{s}$			200	ns
$R_{th}(j-c)$	Thermal Impedance	Junction to case			0.085	$^\circ\text{C}/\text{W}$

