

DIODE MODULE (F.R.D.)

FRS300BA50

UL:E76102 (M)

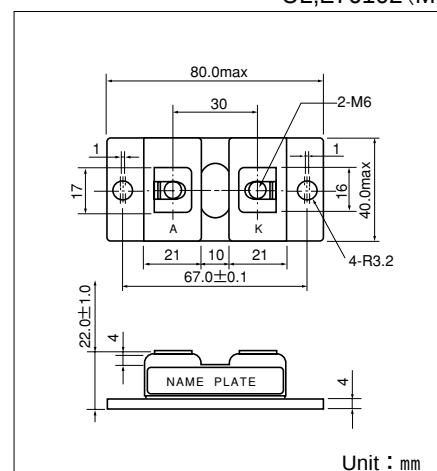
FRS300BA is a high speed (fast recovery) isolated diode module designed for high power switching application. **FRS300BA** is suitable for high frequency application requiring low loss and high speed control.

- 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 $\circ \rightarrow \text{---} \rightarrow \text{---} \circ$ K



Maximum Ratings

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

Symbol	Item	Ratings	Unit
		FRS300BA50	
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. $T_c : 85^\circ\text{C}$	300	A
I_{FMS}	Surge Forward Current		$1/2$ 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	$T_j = 125^\circ\text{C}$, $V_{RRM} = 500\text{V}$			300	mA
V_{FM}	Forward Voltage Drop	$T_j = 25^\circ\text{C}$, $I_{FM} = 300\text{A}$, 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			0.165	$^\circ\text{C}/\text{W}$

