

DIODE MODULE (F.R.D.)

FRD100CA100/120



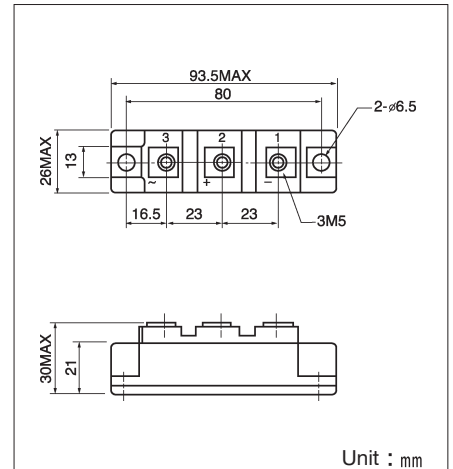
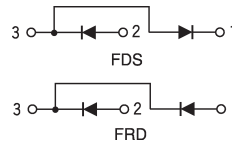
UL;E76102 (M)

FRD100CA is a high speed dual diode module designed for high power switching application. FRD100CA is suitable for high frequency application requiring low loss and high speed control.

- High Speed $t_{rr} \leq 300\text{ns}$
- $I_{F(AV)}$ 100A (each device)
- Isolated mounting construction.
- High Surge Capability

(Applications)

Switching Power Supply. Inverter Welding Power Supply
Power Supply for Telecommunication



Maximum Ratings

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

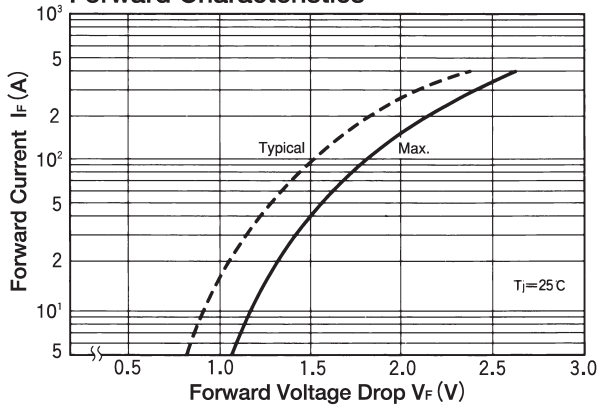
Symbol	Item	Ratings		Unit
		FRD100CA100	FRD100CA120	
V_{RRM}	Repetitive Peak Reverse Voltage	1000	1200	V
$V_{R(DC)}$	D.C. Reverse Voltage	800	960	V

Symbol	Item	Conditions	Ratings	Unit	
I_F	Forward Current	D.C. $T_c = 78^\circ\text{C}$	100	A	
I_{FSM}	Surge Forward Current	$1/2$ cycle, 60Hz, peak value, non-repetitive	2000	A	
I^2t	I^2t	Value for one cycle of surge current	16600	A^2S	
T_j	Operating Junction Temperature		$-40 \sim +150$	$^\circ\text{C}$	
T_{stg}	Storage Temperature		$-40 \sim +125$	$^\circ\text{C}$	
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)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)
		Terminal (M5)	Recommended Value 1.5~2.5 (15~25)	2.7 (28)	
	Mass	Typical Value	170	g	

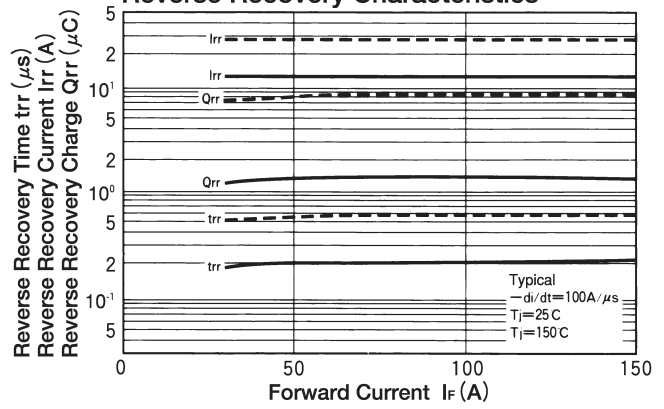
Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	$V_R = V_{RRM}$, $T_j = 150^\circ\text{C}$			5.0	mA
V_{FM}	Forward Voltage Drop	$I_F = 100\text{A}$, Inst. measurement			1.8	V
t_{rr}	Reverse Recovery Time	$I_F = 100\text{A}$, $-di/dt = 100\text{A}/\mu\text{s}$			300	ns
$R_{th(j-c)}$	Thermal Impedance	Junction to case			0.4	$^\circ\text{C}/\text{W}$

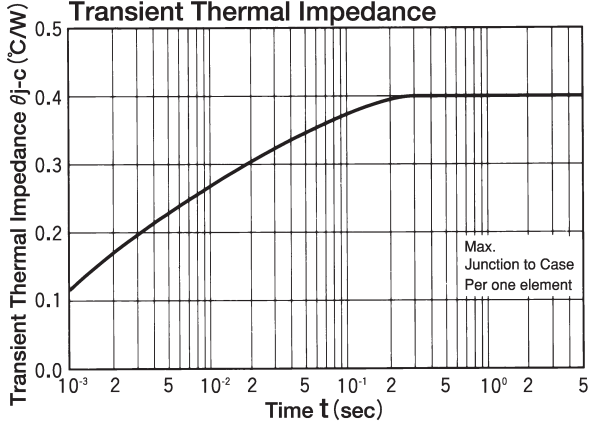
Forward Characteristics



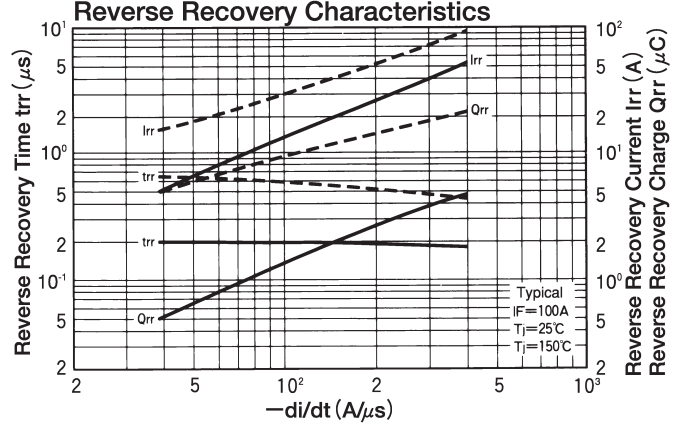
Reverse Recovery Characteristics



Transient Thermal Impedance



Reverse Recovery Characteristics



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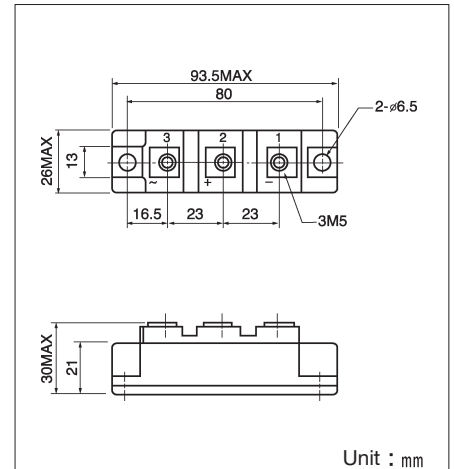
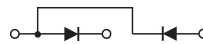
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(Applications)

Switching Power Supply. Inverter Welding Power Supply
Power Supply for Telecommunication



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

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