

DIODE MODULE (F.R.D.)

FRD100CA100/120



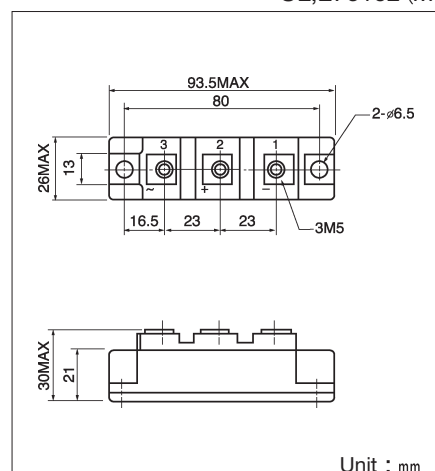
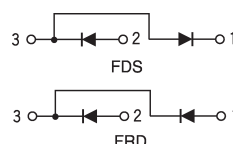
UL;E76102 (M)

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

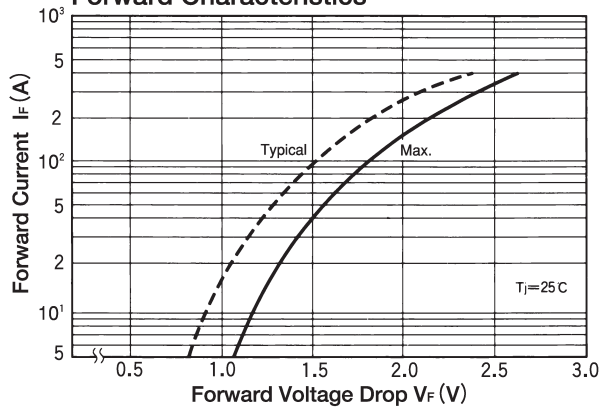
Symbol	Item		Conditions	Ratings	Unit
I_F	Forward Current		D.C. $T_c = 78^\circ\text{C}$	100	A
I_{FSM}	Surge Forward Current		$1/2$ cycle, 60Hz, peak value, non-repetitive	2000	A
I^2t	I^2t		Value for one cycle of surge current	16600	A^2S
T_j	Operating Junction Temperature			$-40 \sim +150$	$^\circ\text{C}$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

Electrical Characteristics

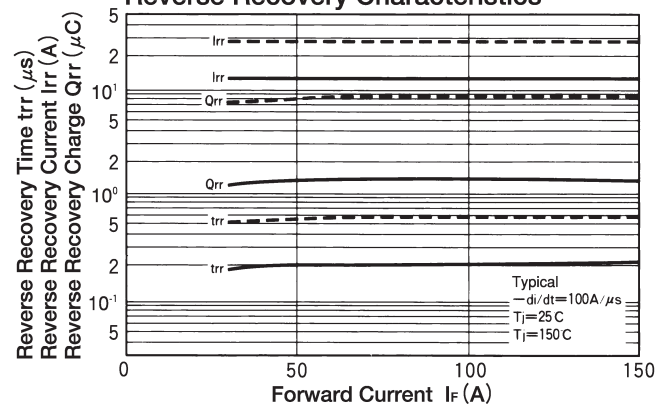
Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	$V_R = V_{RRM}$, $T_j = 150^\circ\text{C}$			5.0	mA
V_{FM}	Forward Voltage Drop	$I_F = 100\text{A}$, Inst. measurement			1.8	V
t_{rr}	Reverse Recovery Time	$I_F = 100\text{A}$, $-di/dt = 100\text{A}/\mu\text{s}$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



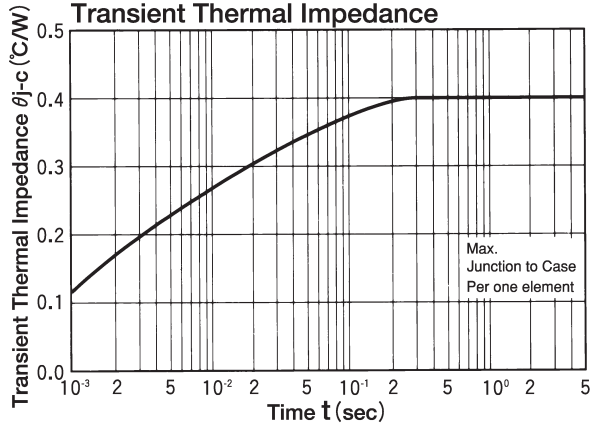
Forward Characteristics



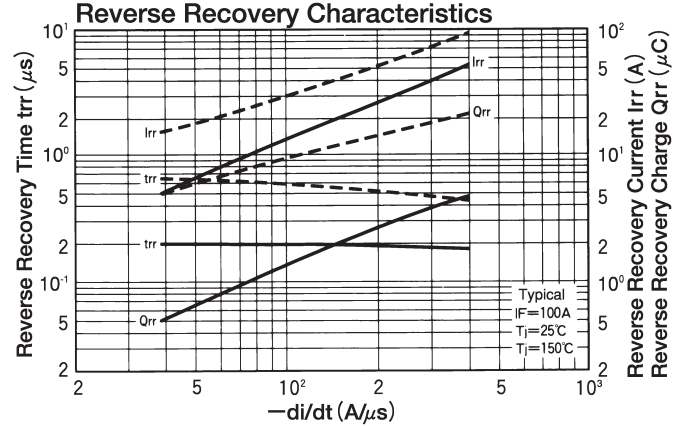
Reverse Recovery Characteristics



Transient Thermal Impedance



Reverse Recovery Characteristics



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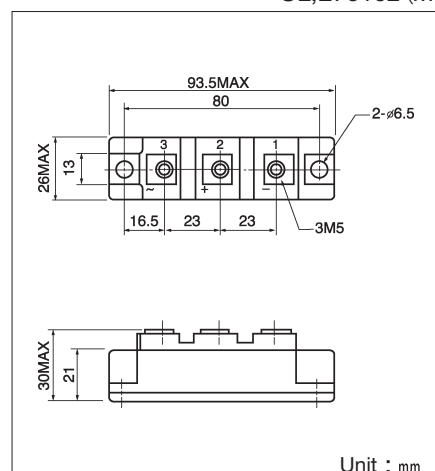
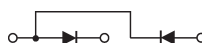
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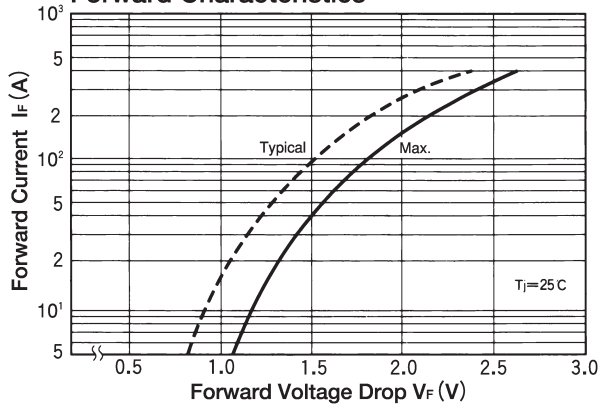
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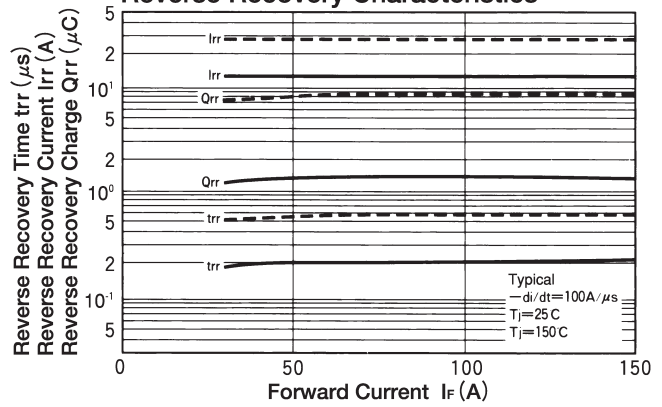
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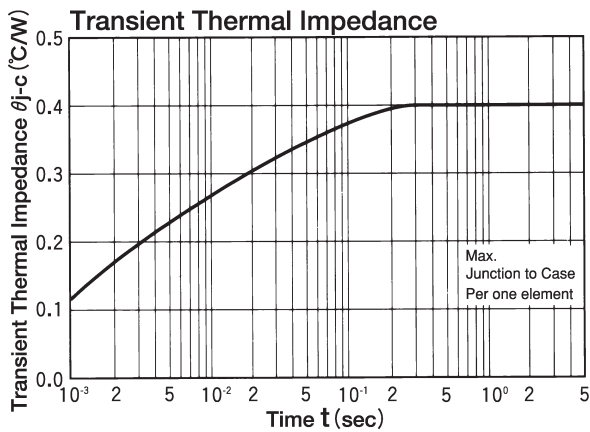
Forward Characteristics



Reverse Recovery Characteristics



Transient Thermal Impedance



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