DIODE MODULE (F.R.D.)

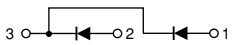
FDS100CA100/120

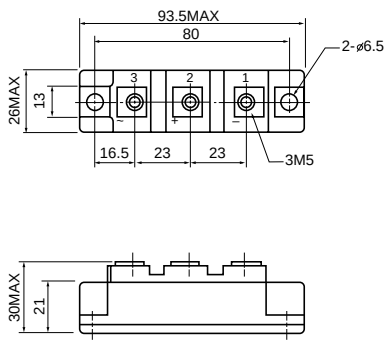
UL;E76102(M)

FDS100CA is a high speed (fast recovery) diode module designed for high power switching application. **FDS100CA** is suitable for high frequency application requiring low loss and high speed control.

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

(Applications)
Switching Power Supply. Inverter Welding Power Supply
Power Supply for Telecommunication





Unit : mm

■Maximum Ratings

(Tj=25℃ unless otherwise specified)

Symbol	Item	Ratings		Unit
		FDS100CA100	FDS100CA120	
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℃	100	A
I_{FSM}	Surge Forward Current		½ cycle, 60Hz, peak value, non-repetitive	2000	A
I^2t	I^2t		Value for one cycle of surge current	16600	A^2S
Tj	Operating Junction Temperature			−40 to +150	℃
Tstg	Storage Temperature			−40 to +125	℃
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)	N·m (kgf·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
			Man.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	V_R=V_{RRM}, Tj=150℃			5.0	mA
V_{FM}	Forward Voltage Drop	I_F=100A, Inst. measurement			1.8	V
trr	Reverse Recovery Time	I_F=100A, −di/dt=100A/μs			300	ns
Rth(j-c)	Thermal Impedance	Junction to case			0.4	℃/W

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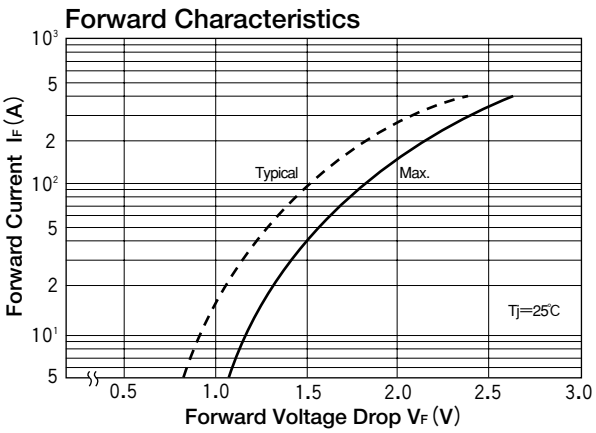
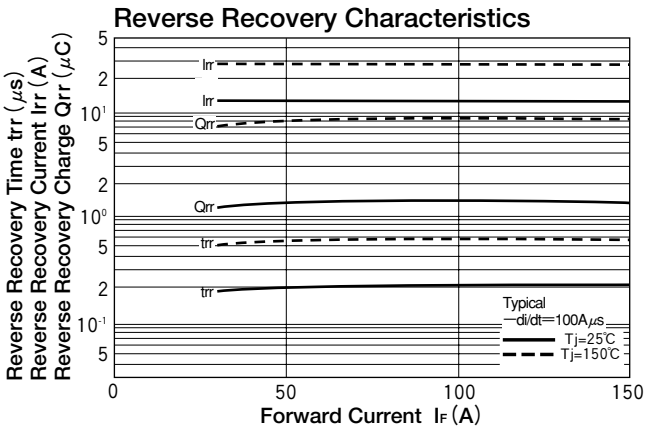
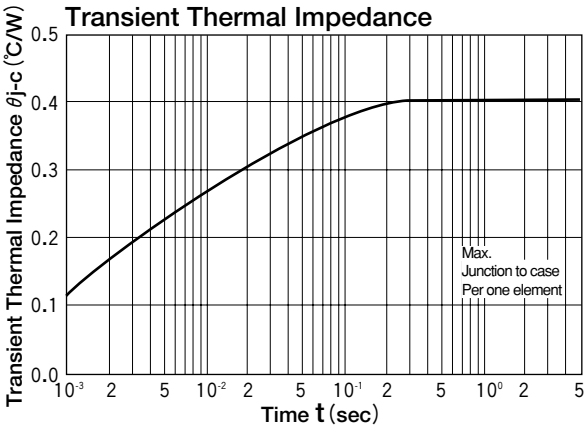
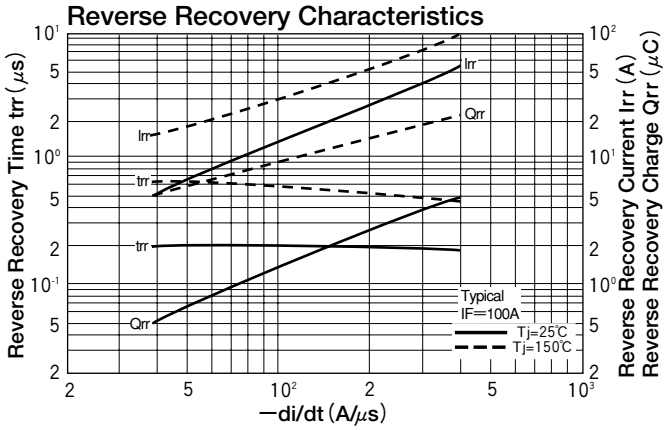

Forward Characteristics
Forward Current IF (A)
Forward Voltage Drop VF (V)
Typical
Max.
Tj=25℃


Reverse Recovery Characteristics
Reverse Recovery Time trr (μs)
Reverse Recovery Current Irr (A)
Reverse Recovery Charge Qrr (μC)
Forward Current IF (A)
Typical
di/dt=100A/μs
Tj=25℃
Tj=150℃


Transient Thermal Impedance
Transient Thermal Impedance θj-c (℃/W)
Time t (sec)
Max.
Junction to case
Per one element


Reverse Recovery Characteristics
Reverse Recovery Time trr (μs)
Reverse Recovery Current Irr (A)
Reverse Recovery Charge Qrr (μC)
—di/dt (A/μs)
Typical
IF=100A
Tj=25℃
Tj=150℃