SDF40U60DN
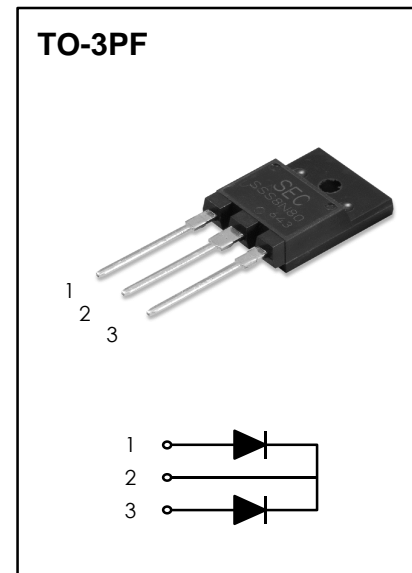
POWER RECTIFIER

FEATURES

* High Voltage and High Reliability
* High Speed Switching (Trr=90ns)
* Low V_F in Turn on (V_F=1.6V at I_F=40A)

APPLICATIONS

* General Purpose
* Switching Mode Power Supply
* Free Wheeling Diode for Motor Application
* Power Switching Circuit

TO-3PF

MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Average Rectified Forward Current, T_C=100 °C	$I_{F(AV)}$	40	A
Nonrepetetive Peak Surge Current (Halfwave, Single Phase, 60Hz)	I_{FSM}	240	A
Operating Junction and Storage Temperature	T_J, T_{STG}	-65 ~ 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance- Junction to Case	$R_{\theta JC}$	0.6	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Typ	Max	Units
Maximum Instantaneous Forward Voltage (1)	V_F			
(I_F = 40A, T_C = 100 °C)		-	1.9	V
(I_F = 40A, T_C = 25 °C)		1.6	2.1	
Maximum Instantaneous Reverse Current (1)	I_R			
(Rated DC Voltage, T_C = 100 °C)		40	200	µA
(Rated DC Voltage, T_C = 25 °C)		4	20	
Maximum Reverse Recovery Time	trr	90	110	ns
(I_F = 40A, di/dt = 200A/µs)	Irr	8	10	A
	Qrr	360	550	nC

(1) Pulse Test : Pulse Width = 300µs, Duty Cycle $\leq$ 2.0%

FAIRCHILD
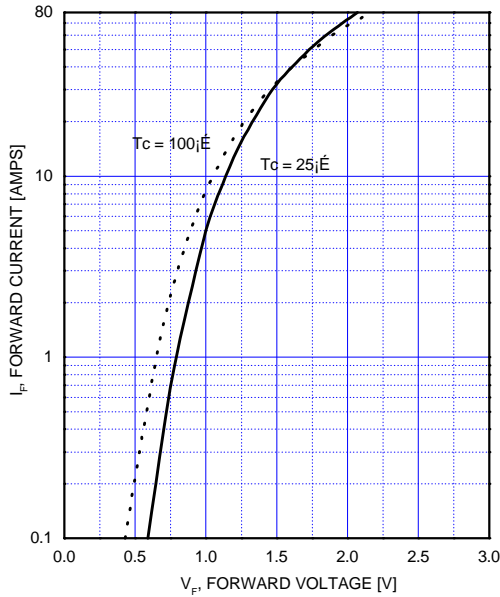SEMICONDUCTOR ™

Fig.1 Typical Forward Voltage Drop
       vs. Forward Current
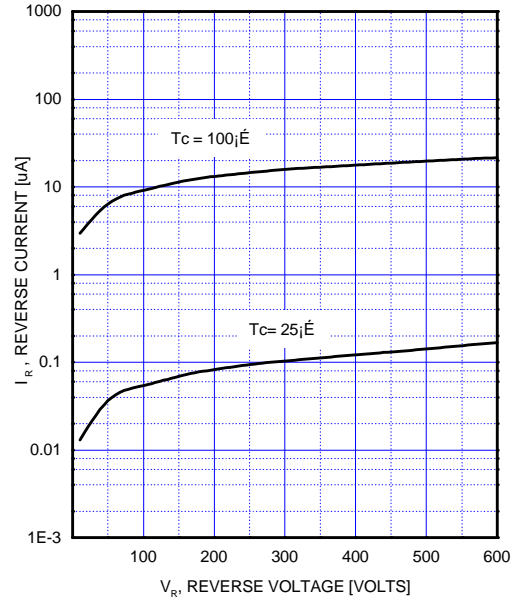
Fig.2 Reverse Voltage vs. Reverse
       Current
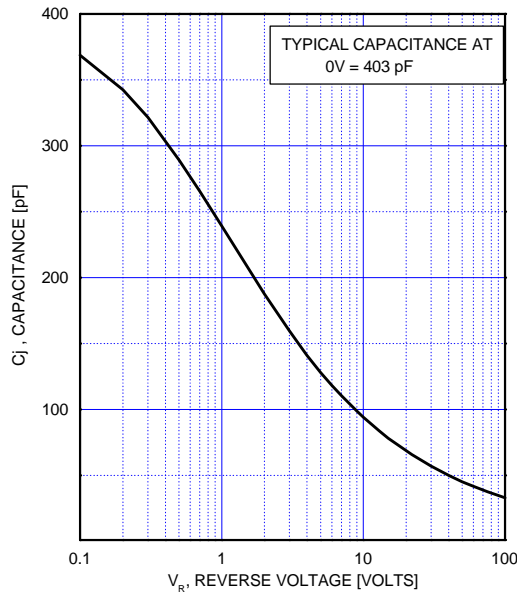
Fig.3   Typical Capacitance

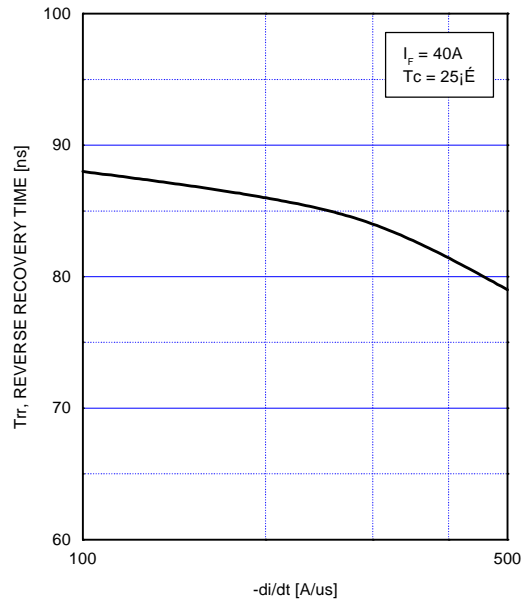Fig.4 Typical Reverse Recovery Time
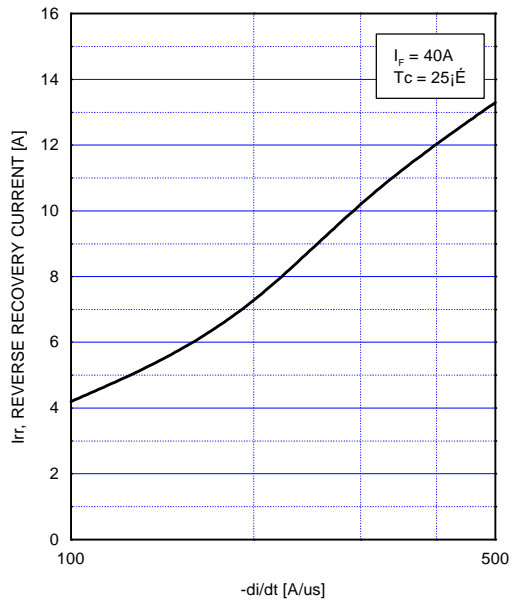   vs. di/dt

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Fig.5 Typical Reverse Recovery Current vs. di/dt

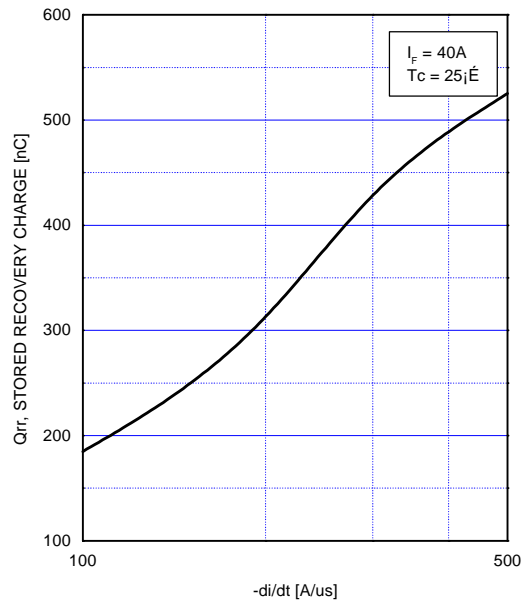Fig.6 Typical Stored Charge vs. di/dt

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