

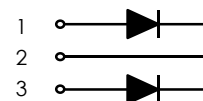
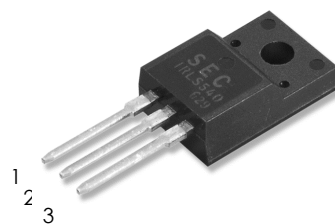
FEATURES

- * High Voltage and High Reliability
- * High Speed Switching ($T_{rr}=70ns$)
- * Low V_F in Turn on ($V_F=1.7V$ at $I_F=20A$)

APPLICATIONS

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

TO-220F



MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Average Rectified Forward Current, $T_C=100\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	20	A
Non-repetitive Peak Surge Current (Half-wave, Single Phase, 60Hz)	I_{FSM}	120	A
Operating Junction and Storage Temperature	T_J, T_{STG}	-65 ~ 150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

Thermal Resistance- Junction to Case	$R_{\theta JC}$	1.25	$^{\circ}\text{C/W}$
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ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Typ	Max	Units
Maximum Instantaneous Forward Voltage (1) ($I_F = 20A$, $T_C = 100\text{ }^{\circ}C$) ($I_F = 20A$, $T_C = 25\text{ }^{\circ}C$)	V_F	- 1.7	2 2.2	V
Maximum Instantaneous Reverse Current (1) (Rated DC Voltage, $T_C = 100\text{ }^{\circ}C$) (Rated DC Voltage, $T_C = 25\text{ }^{\circ}C$)	I_R	20 2	100 10	μA
Maximum Reverse Recovery Time ($I_F = 20A$, $di/dt = 200A/\mu s$)	t_{rr} I_{rr} Q_{rr}	70 6 210	90 8 360	ns A nC

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

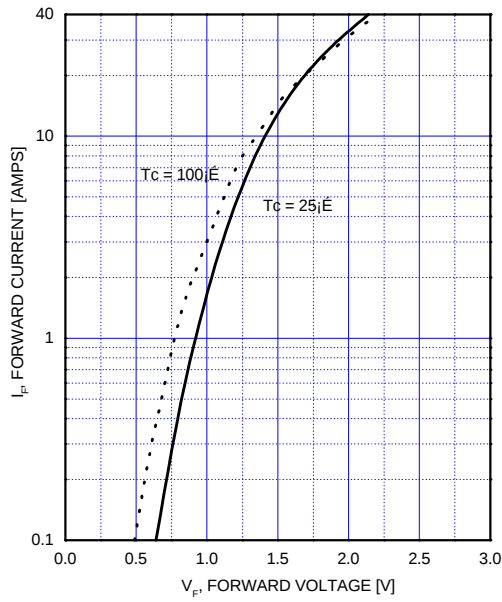


Fig.1 Typical Forward Voltage Drop vs. Forward Current

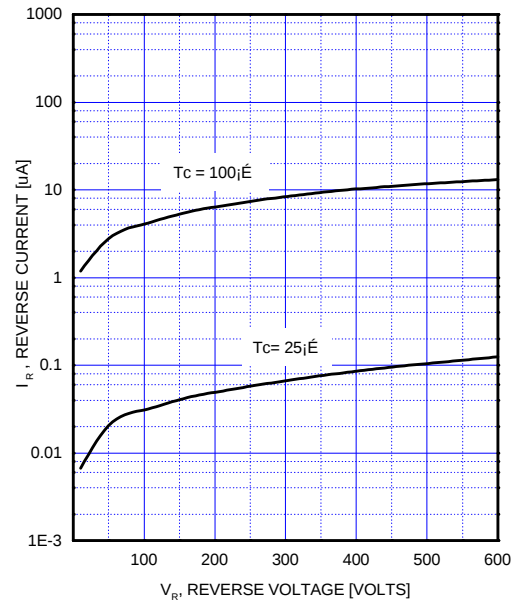


Fig.2 Reverse Voltage vs. Reverse Current

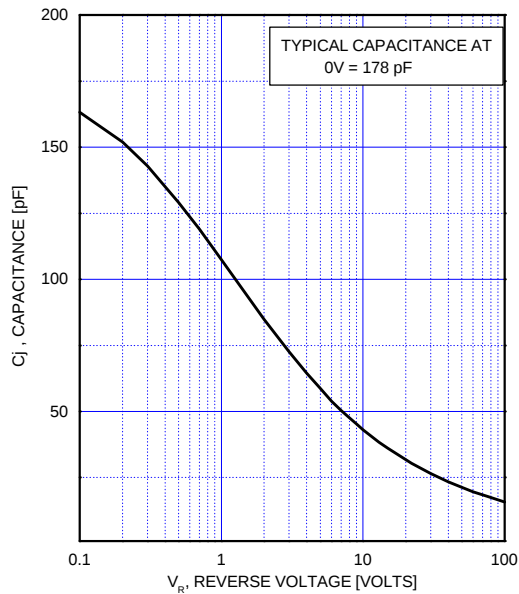


Fig.3 Typical Capacitance

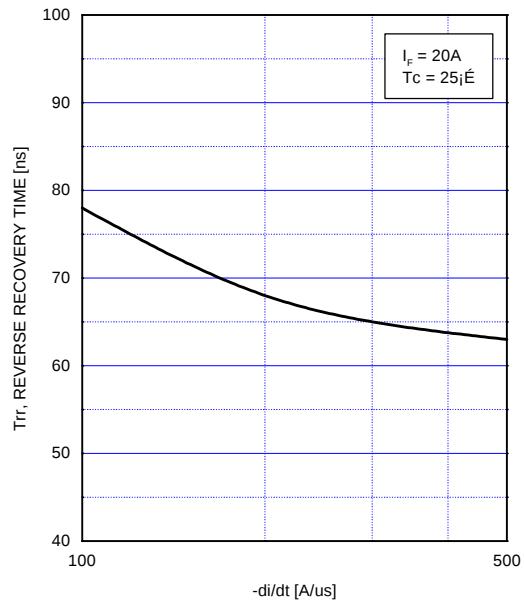


Fig.4 Typical Reverse Recovery Time vs. di/dt

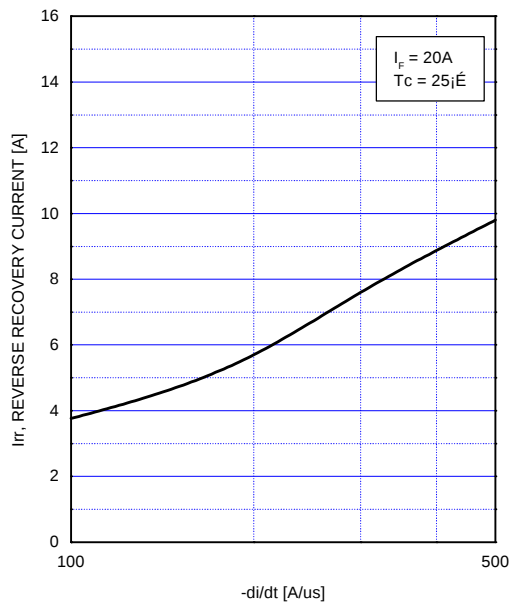


Fig.5 Typical Reverse Recovery Current vs. di/dt

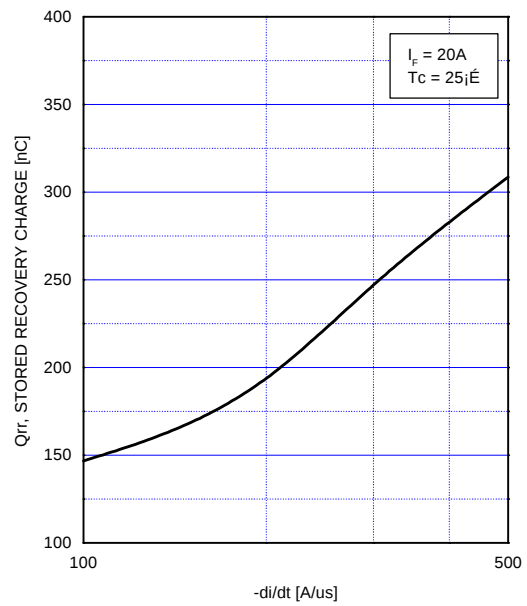


Fig.6 Typical Stored Charge vs. di/dt

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