

# SDS10U60DN

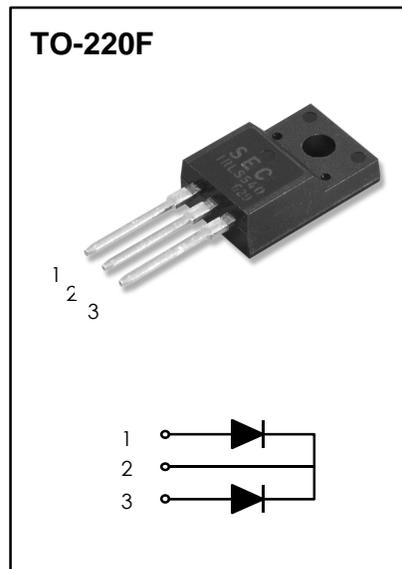
# POWER RECTIFIER

## FEATURES

- \* High Voltage and High Reliability
- \* High Speed Switching ( $T_{rr}=70ns$ )
- \* Low  $V_F$  in Turn on ( $V_F=1.7V$  at  $I_F=10A$ )

## APPLICATIONS

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



## MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
Average Rectified Forward Current, $T_C=100\text{ }^\circ\text{C}$	$I_{F(AV)}$	10	A
Non-repetitive Peak Surge Current (Half-wave, Single Phase, 60Hz)	$I_{FSM}$	60	A
Operating Junction and Storage Temperature	$T_J, T_{STG}$	-65 ~ 150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

Thermal Resistance- Junction to Case	$R_{\theta JC}$	2.5	$^\circ\text{C/W}$
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**ELECTRICAL CHARACTERISTICS**

Characteristics	Symbol	Typ	Max	Units
Maximum Instantaneous Forward Voltage (1) ( $I_F = 10A, T_C = 100\text{ }^\circ\text{C}$ ) ( $I_F = 10A, T_C = 25\text{ }^\circ\text{C}$ )	$V_F$	- 1.7	2 2.2	V
Maximum Instantaneous Reverse Current (1) (Rated DC Voltage, $T_C = 100\text{ }^\circ\text{C}$ ) (Rated DC Voltage, $T_C = 25\text{ }^\circ\text{C}$ )	$I_R$	10 1	50 5	$\mu\text{A}$
Maximum Reverse Recovery Time ( $I_F = 10A, di/dt = 200A/\mu\text{s}$ )	$t_{rr}$ $I_{rr}$ $Q_{rr}$	70 4.5 160	90 6 270	ns A nC

(1) Pulse Test : Pulse Width = 300 $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

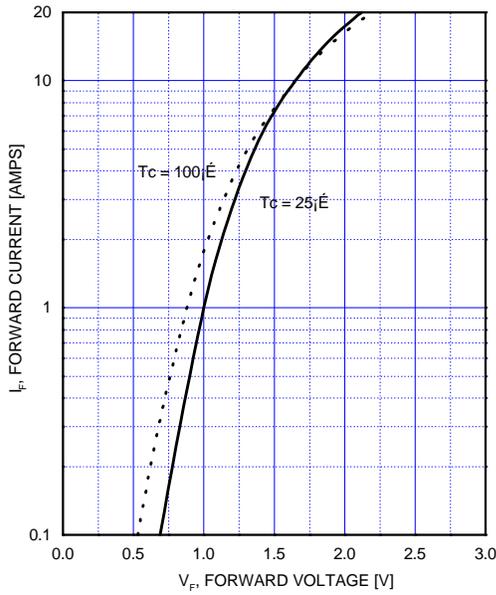


Fig.1 Typical Forward Voltage Drop vs. Forward Current

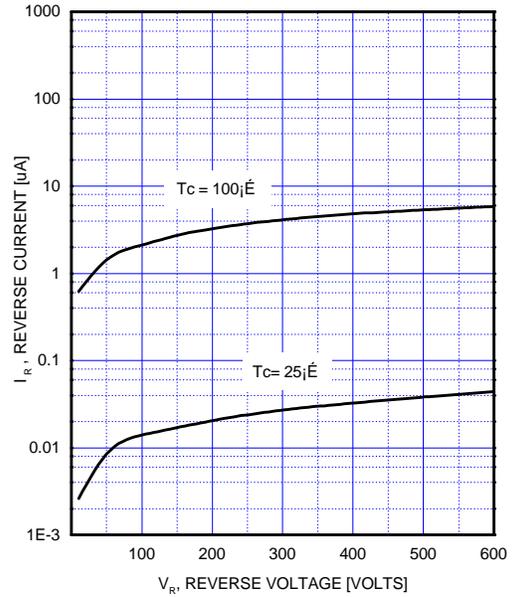


Fig.2 Reverse Voltage vs. Reverse Current

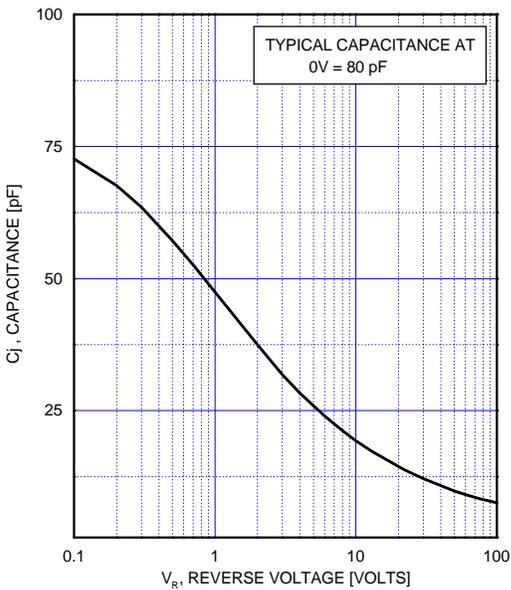


Fig.3 Typical Capacitance

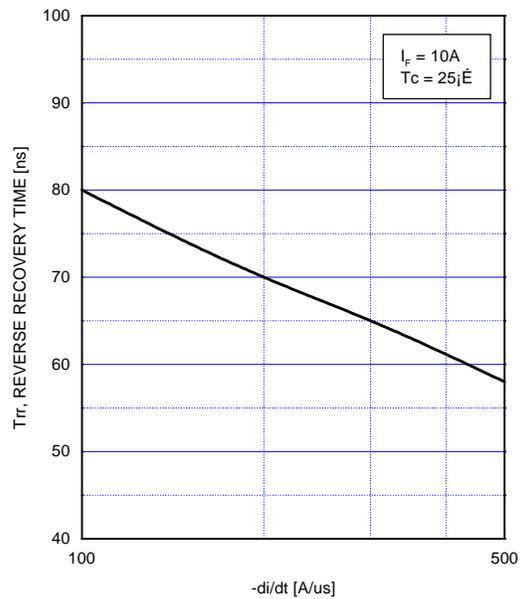


Fig.4 Typical Reverse Recovery Time vs. di/dt

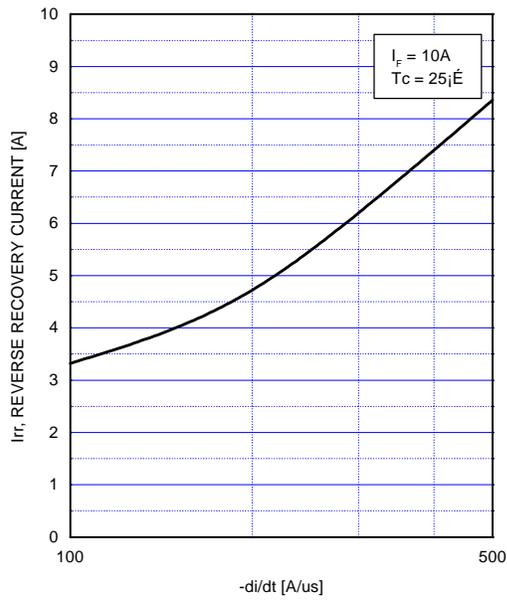


Fig.5 Typical Reverse Recovery Current vs. di/dt

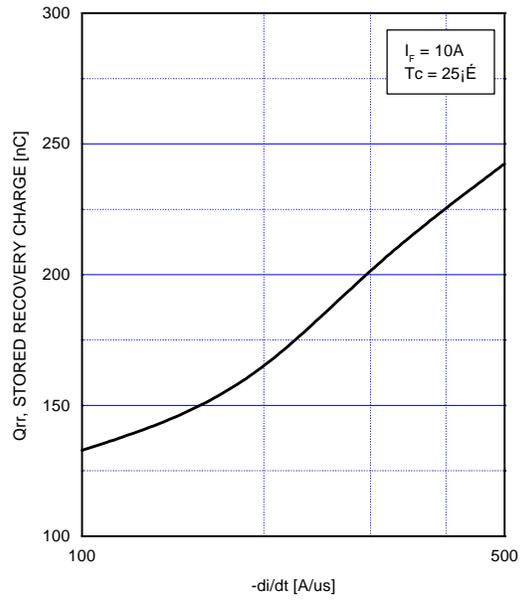


Fig.6 Typical Stored Charge vs. di/dt

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