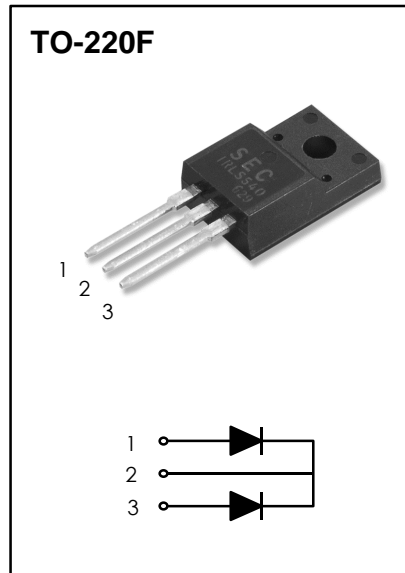


## FEATURES

- \* Ultrafast with Soft Recovery (T<sub>rr</sub> < 35ns)
- \* Low Forward Voltage (V<sub>F</sub>=0.98V at I<sub>F</sub>=10A)

## APPLICATIONS

- \* Power Switching Circuits
- \* Output rectifiers
- \* Freewheeling Diodes
- \* Switching Mode Power Supply



## MAXIMUM RATINGS

| Rating   | Symbol                            | Value     | Units |
|--|-----------------------------------|-----------|-------|
| Peak Repetitive Reverse Voltage                                      | V <sub>RRM</sub>                  | 200       | V     |
| Average Rectified Forward Current, T <sub>C</sub> =100 °C            | I <sub>F(AV)</sub>                | 10        | A     |
| Non-repetitive Peak Surge Current<br>(Half-wave, Single Phase, 60Hz) | I <sub>FSM</sub>                  | 100       | A     |
| Operating Junction and Storage Temperature                           | T <sub>J</sub> , T <sub>STG</sub> | -65 ~ 150 | °C    |

## THERMAL CHARACTERISTICS

|                                       |                  |     |      |
|---------------------------------------|------------------|-----|------|
| Thermal Resistance - Junction to Case | R <sub>θJC</sub> | 5.0 | °C/W |
|---------------------------------------|------------------|-----|------|

## ELECTRICAL CHARACTERISTICS

| Characteristics  | Symbol                           | Min | Typ | Max             | Units         |
|--|----------------------------------|-----|-----|-----------------|---------------|
| Maximum Instantaneous Forward Voltage (1)<br>( $I_F = 10A, T_C = 100\text{ }^\circ\text{C}$ )<br>( $I_F = 10A, T_C = 25\text{ }^\circ\text{C}$ )             | $V_F$                            | -   | -   | 1.0<br>1.2      | V             |
| Maximum Instantaneous Reverse Current (1)<br>(Rated DC Voltage, $T_C = 100\text{ }^\circ\text{C}$ )<br>(Rated DC Voltage, $T_C = 25\text{ }^\circ\text{C}$ ) | $I_R$                            | -   | -   | 100<br>10       | $\mu\text{A}$ |
| Maximum Reverse Recovery Time<br>( $I_F = 10A, di/dt = -200A/\mu\text{s}$ )  | $t_{rr}$<br>$I_{rr}$<br>$Q_{rr}$ | -   | -   | 35<br>2.5<br>45 | ns<br>A<br>nC |
| Avalanche Energy   | $W_{AVL}$                        | 0.5 | -   | -               | mJ            |

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

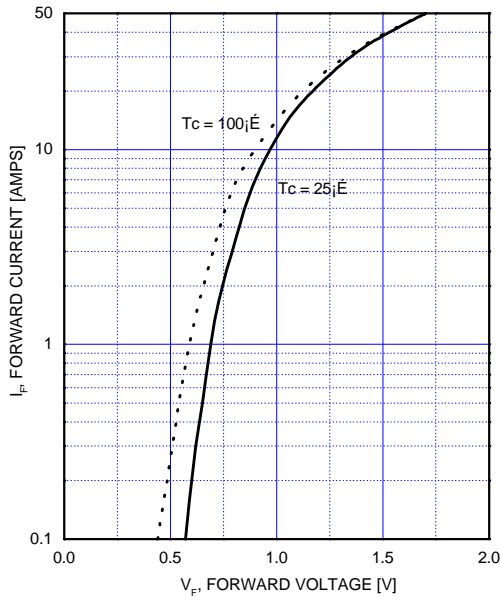


Fig.1 Typical Forward Voltage Drop vs. Forward Current

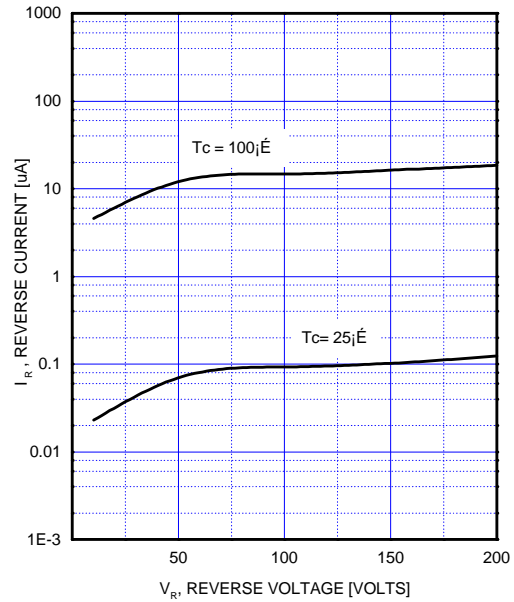


Fig.2 Reverse Voltage vs. Reverse Current

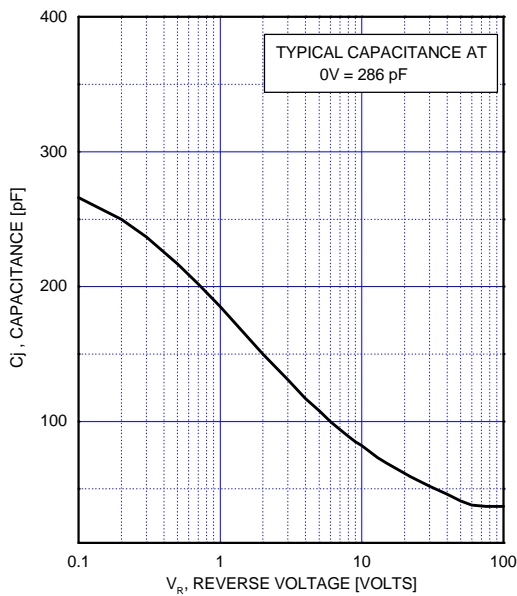


Fig.3 Typical Capacitance

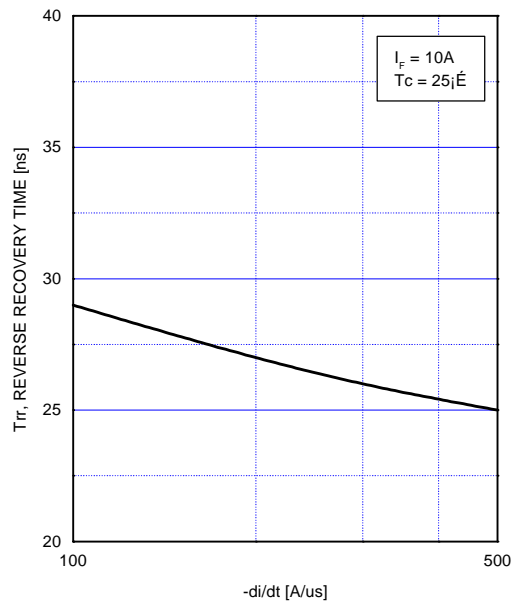


Fig.4 Typical Reverse Recovery Time vs.  $di/dt$

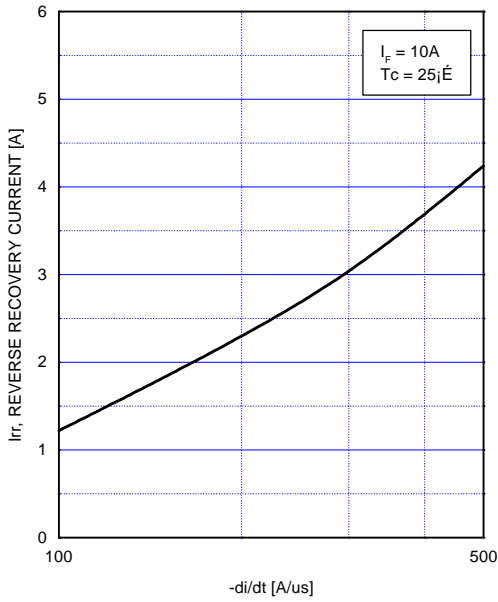


Fig.5 Typical Reverse Recovery Current vs.  $di/dt$

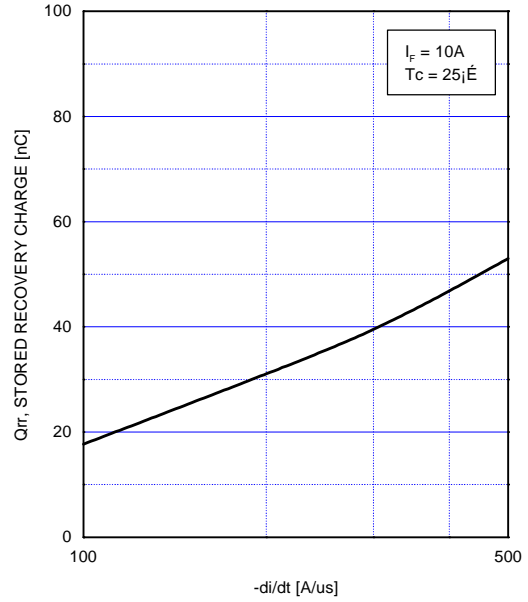


Fig.6 Typical Stored Charge vs.  $di/dt$

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| CROSSVOLT™           | POP™          |
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| FACT™                | QS™           |
| FACT Quiet Series™   | Quiet Series™ |
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