

SDP15U20DN

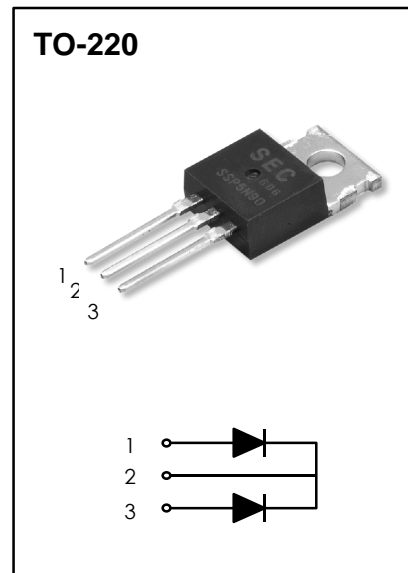
POWER RECTIFIER

FEATURES

- * Ultrafast with Soft Recovery (T_{rr} < 40ns)
- * Low Forward Voltage (V_F=0.98V at I_F=15A)

APPLICATIONS

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



MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Repetitive Reverse Voltage	V _{RRM}	200	V
Average Rectified Forward Current, T _C =100.	I _{F(AV)}	15	A
Non-repetitive Peak Surge Current (Half-wave, Single Phase, 60Hz)	I _{FSM}	150	A
Operating Junction and Storage Temperature	T _J , T _{STG}	-65 ~ 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance - Junction to Case	R _{θJC}	3.1	°C/W
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ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Units
Maximum Instantaneous Forward Voltage (1) ($I_F = 15A$, $T_C = 100\text{ }^\circ\text{C}$) ($I_F = 15A$, $T_C = 25\text{ }^\circ\text{C}$)	V_F	-	-	1.0 1.2	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	-	-	150 15	μA
Maximum Reverse Recovery Time ($I_F = 15A$, $di/dt = -200A/\mu\text{s}$)	t_{rr} I_{rr} Q_{rr}	-	-	40 3.5 70	ns A nC
Avalanche Energy	W_{AVL}	0.5	-	-	mJ

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

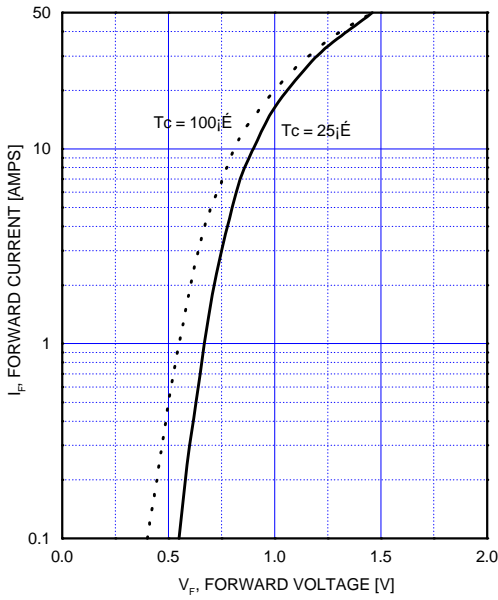


Fig.1 Typical Forward Voltage Drop vs. Forward Current

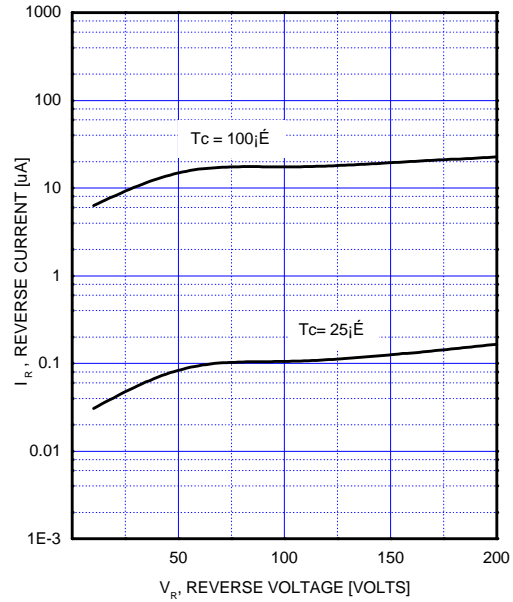


Fig.2 Reverse Voltage vs. Reverse Current

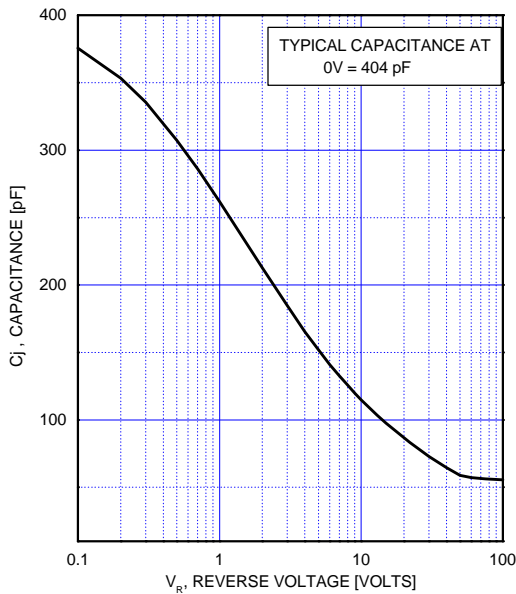


Fig.3 Typical Capacitance

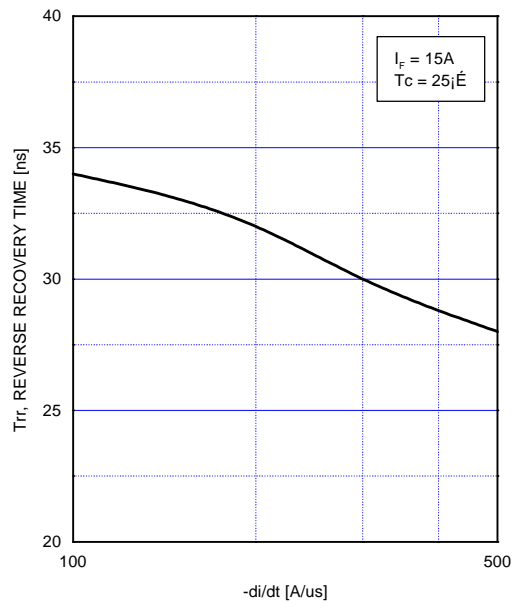


Fig.4 Typical Reverse Recovery Time vs. di/dt

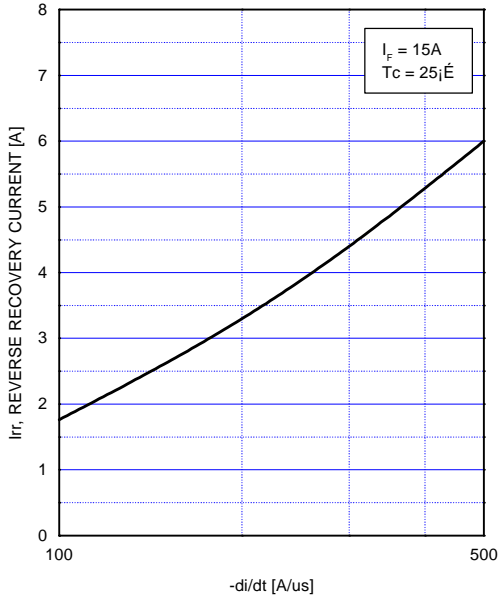


Fig.5 Typical Reverse Recovery Current vs. di/dt

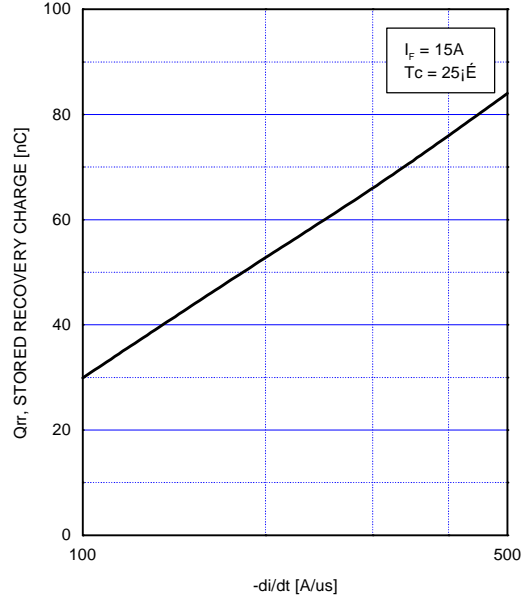


Fig.6 Typical Stored Charge vs. di/dt

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