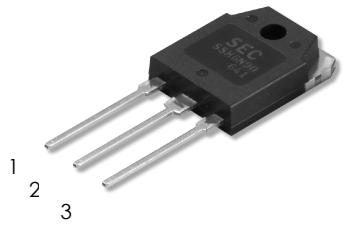
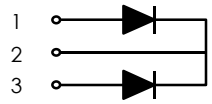
SDH30U20DN POWER RECTIFIER

FEATURES

* Ultrafast with Soft Recovery
  (Trr < 40ns)
* Low Forward Voltage (V_F=0.98V at I_F=30A)

TO-3P





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 °C	$I_{F(AV)}$	30	A
Non-repetitive Peak Surge Current (Half-wave, Single Phase, 60Hz)	I_{FSM}	300	A
Operating Junction and Storage Temperature	T_J, T_{STG}	-65 ~ 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance - Junction to Case	$R_{\theta JC}$	1.4	°C/W

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ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Units
Maximum Instantaneous Forward Voltage (1)	V_F				
(I_F = 30A, T_C = 100 °C)		-	-	1.0	V
(I_F = 30A, T_C = 25 °C)		-	-	1.2	
Maximum Instantaneous Reverse Current (1)	I_R				
(Rated DC Voltage, T_C = 100 °C)		-	-	300	μA
(Rated DC Voltage, T_C = 25 °C)		-	-	30	
Maximum Reverse Recovery Time	trr	-	-	40	ns
(I_F = 30A, di/dt = -200A/μs)	Irr	-	-	4.0	A
	Qrr	-	-	80	nQ
Avalanche Energy	W_{AVL}	0.5	-	-	mJ

(1) Pulse Test : Pulse Width = 300μs, Duty Cycle ≤ 2.0%

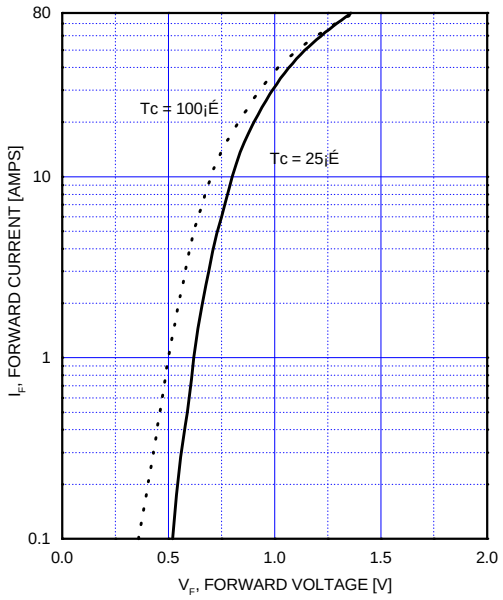

Fig.1 Typical Forward Voltage Drop vs. Forward Current

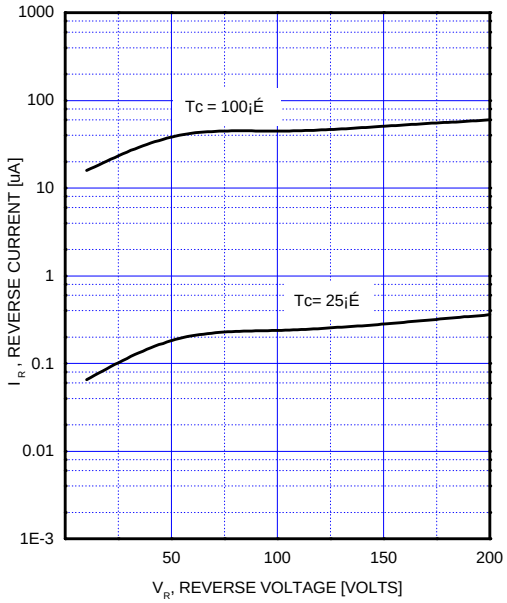

Fig.2 Reverse Voltage vs. Reverse Current

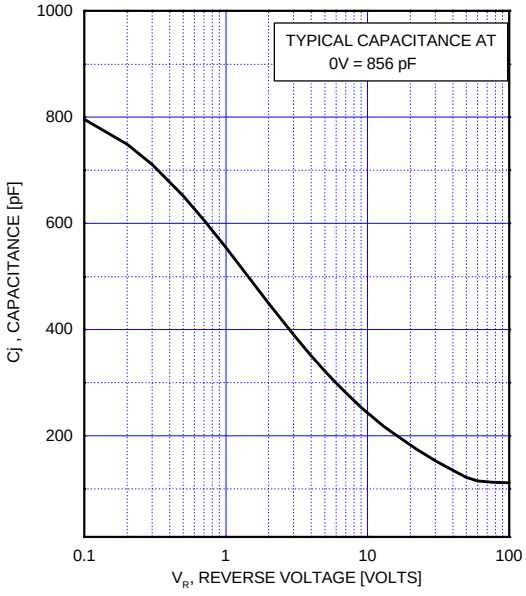

Fig.3 Typical Capacitance

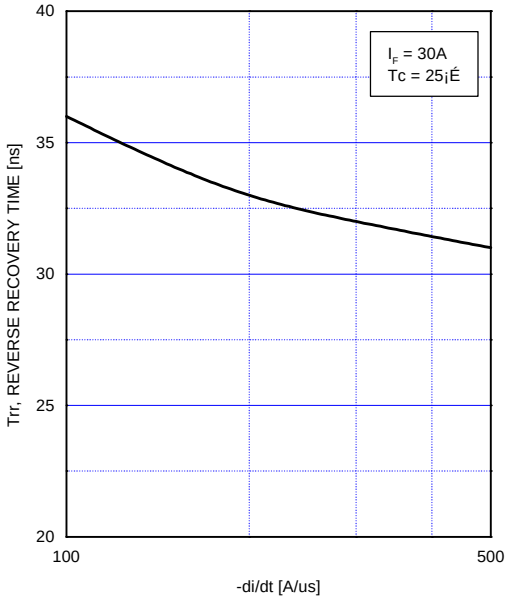

Fig.4 Typical Reverse Recovery Time vs. di/dt

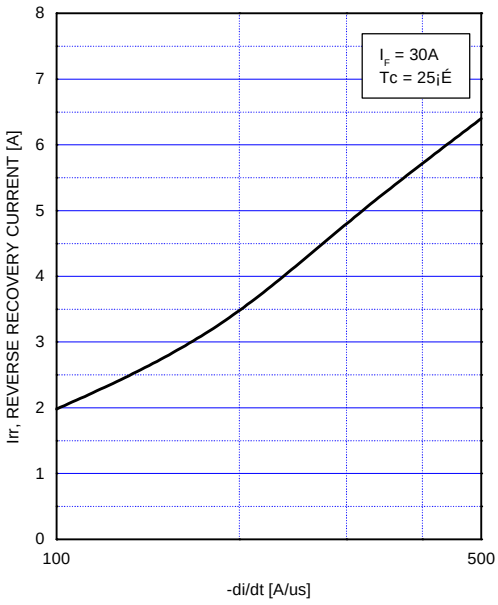

Fig.5 Typical Reverse Recovery Current vs. di/dt

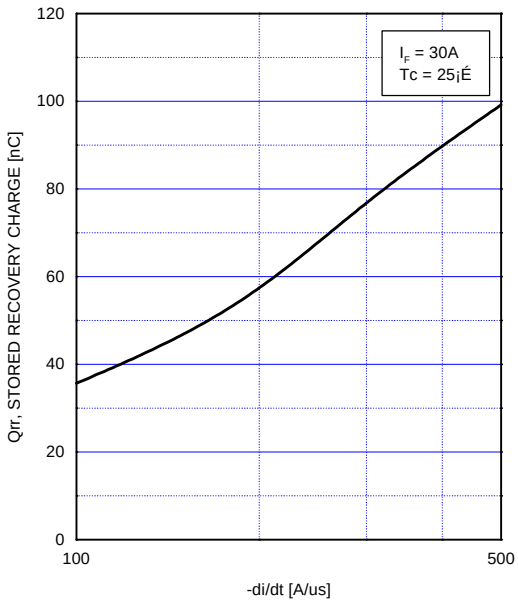

Fig.6 Typical Stored Charge vs. di/dt

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