

TECHNICAL DATA
DATA SHEET 310, REV. -

SCHOTTKY RECTIFIER

Ultra Low Reverse Leakage

200°C Operating Temperature

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

- Ultra low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics
- Out Performs 200 Volt Ultrafast Rectifiers

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	200	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	7.5	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine wave ⁽¹⁾	140	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ °C}$, $I_{AS} = 0.23A$, $L = 130\text{ mH}$	7.7	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in 1 μs f limited by T_J max $V_A=1.5V_R$	0.4	A
Max. Junction Temperature	T_J	-	-65 to +200	°C
Max. Storage Temperature	T_{stg}	-	-65 to +200	°C

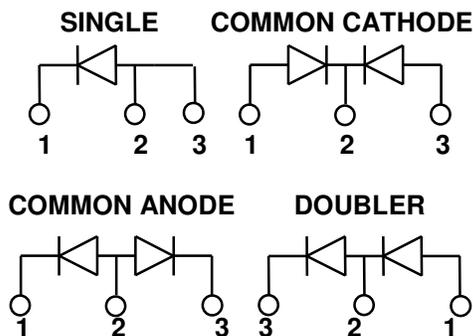
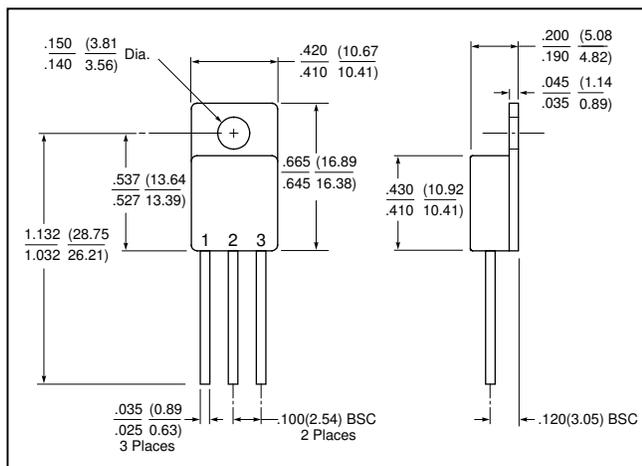
Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 3A, Pulse, $T_J = 25\text{ °C}$	0.92	V
	V_{F2}	@ 3A, Pulse, $T_J = 125\text{ °C}$	0.76	V
Max. Reverse Current	I_{R1}	@ $V_R = 100V$, Pulse, $T_J = 25\text{ °C}$	7.5	μA
	I_{R2}	@ $V_R = 100V$, Pulse, $T_J = 125\text{ °C}$	0.5	mA
Max. Junction Capacitance	C_T	@ $V_R = 5V$, $T_C = 25\text{ °C}$ $f_{SIG} = 1\text{ MHz}$, $V_{SIG} = 50\text{ mV (p-p)}$	150	pF
Max. Reverse Recovery Time	t_{rr}	$I_F = 0.5A$, $I_R = 1.0A$, $I_{RM} = 0.25\text{ A}$, $T_J = 25\text{ °C}$	12	nsec

(1) in SHD package

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Mechanical Dimensions: In Inches / mm

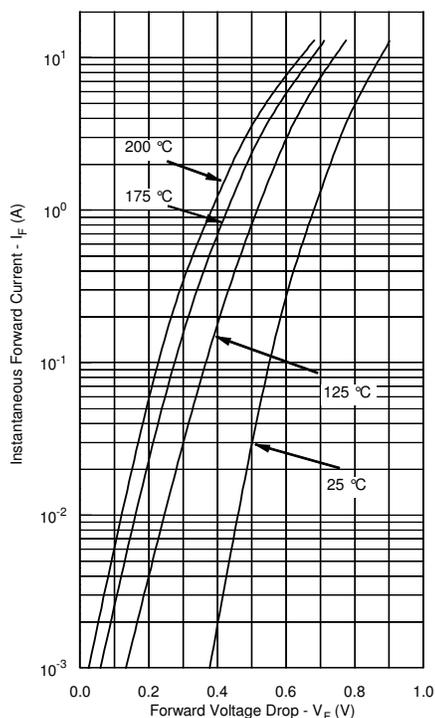


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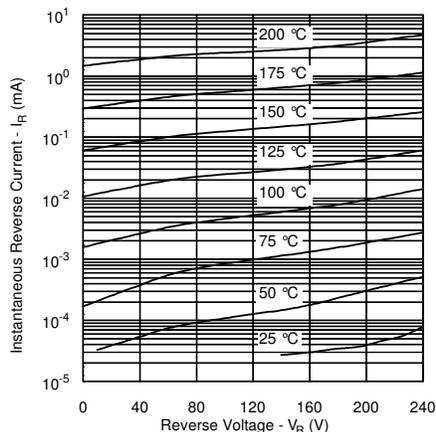
PINOUT TABLE

TYPE	PIN 1	PIN 2	PIN 3
SINGLE RECTIFIER	CATHODE	ANODE	ANODE
DUAL RECTIFIER, COMMON CATHODE (P)	ANODE 1	COMMON CATHODE	ANODE 2
DUAL RECTIFIER, COMMON ANODE (N)	CATHODE 1	COMMON ANODE	CATHODE 2
DUAL RECTIFIER, DOUBLER (D)	ANODE	ANODE/CATHODE	CATHODE

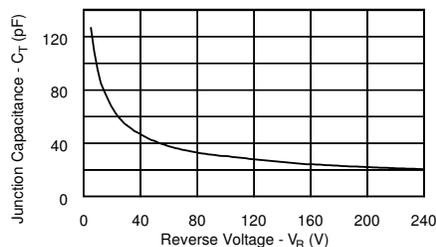
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Note: The V_f curves shown are for the SD090SCU200 unpackaged die only.

TECHNICAL DATA

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