RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

SR580 THRU SR5100

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE 80 to 100 Volts   CURRENT 5.0 Amperes

FEATURES
* Fast switching
* Low switching noise
* Low forward voltage drop
* High current capability
* High switching capability
* High reliability
* High surge capability

MECHANICAL DATA
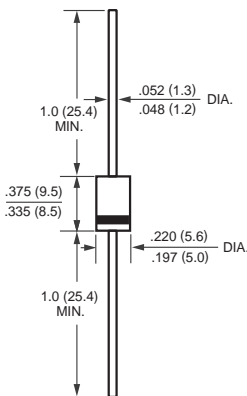* Case: Molded plastic
* Epoxy: Device hasUL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 1.18 grams

DO-201AD

.052 (1.3) / .048 (1.2) DIA.

1.0 (25.4) MIN.

.375 (9.5) / .335 (8.5)

.220 (5.6) / .197 (5.0) DIA.

1.0 (25.4) MIN.

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	SR580	SR590	SR5100	UNITS
Maximum Recurrent Peak Reverse Voltage	V$_{RRM}$	80	90	100	Volts
Maximum RMS Voltage	V$_{RMS}$	56	63	70	Volts
Maximum DC Blocking Voltage	V$_{DC}$	80	90	100	Volts
Maximum Average Forward Rectified Current .375 (9.5mm) lead length at TL=90 ^{0}C	IO		5.0		Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I$_{FSM}$		150		Amps
Typical Thermal Resistance (Note 1)	Rθ$_{JA}$		18		^{0}C/W
Typical Junction Capacitance (Note 2)	C$_{J}$		200		pF
Operating Temperature Range	T$_{J}$		150		^{0}C
Storage Temperature Range	T$_{STG}$		-55 to + 150		^{0}C

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	SR580	SR590	SR5100	UNITS
Maximum Instantaneous Forward Voltage at 5.0A DC	V$_{F}$		.81		Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage @T$_{A}$ = 25°C	I$_{R}$		10		mA

NOTES : 1. Thermal Resistance (Junction to Ambient): Vertical PC Board Mounting, 0.5" (12.7mm) Lead Length.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

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RATING AND CHARACTERISTIC CURVES (SR580 THRU SR5100)
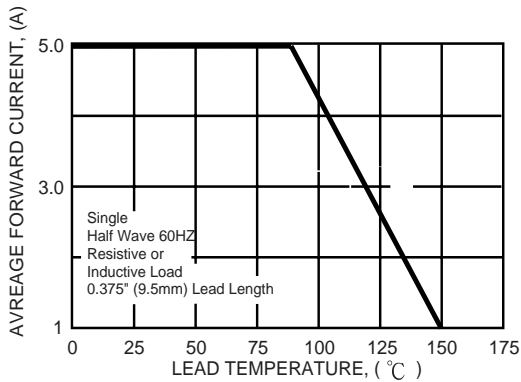
FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

AVREAGE FORWARD CURRENT, (A)

LEAD TEMPERATURE, (℃)

Single
Half Wave 60HZ
Resistive or
Inductive Load
0.375" (9.5mm) Lead Length

FIG. 2 - TYPICAL INSTANTANEOUS
FORWARD CHARCTERISTICS

INSTANTANEOUS FORWARD CURRENT, (A)

INSTANTANEOUS FORWARD VOLTAGE, (V)

$T_J = 25$ ℃
Pulse Width = 300uS
1% Duty Cycle
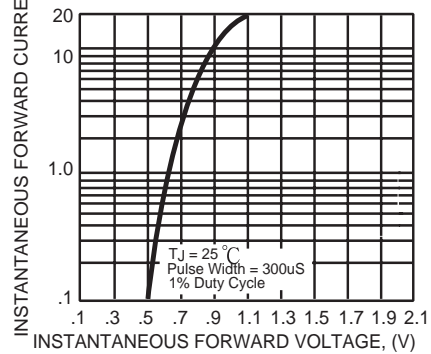
FIG. 3A - TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT (uA)

PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

$T_J = 125$ ℃

$T_J = 100$ ℃

$T_J = 25$ ℃
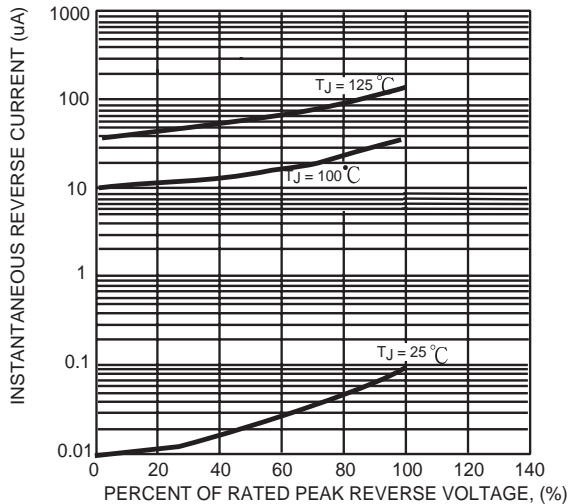
FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

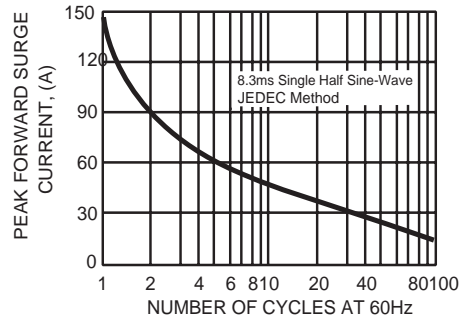PEAK FORWARD SURGE CURRENT, (A)

NUMBER OF CYCLES AT 60Hz

8.3ms Single Half Sine-Wave
JEDEC Method

FIG. 5 - TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE, (pF)

REVERSE VOLTAGE, (V)

$T_J = 25$ ℃

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