

# SD1020YT Thru SD10100YT

SCHOTTKY BARRIER RECTIFIER  
VOLTAGE - 20 to 100 Volts CURRENT - 10.0 Amperes

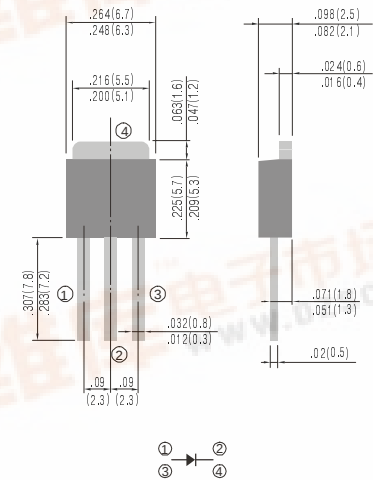
## FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For thorough hole applications
- Low profile package
- Built-in strain relief
- Metal to silicon rectifier majority carrier conduction
- Low power loss, High efficiency
- High current capability, low  $V_F$
- High surge capacity
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:260°C/10 seconds at terminals

## MECHANICAL DATA

Case: TO-251AB molded plastic  
Terminals: Solder plated, solderable per MIL-STD-750,Method 2026  
Polarity: Color band denotes cathode  
Weight: 0.015 ounce, 0.4 gram.

## TO-251AB



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

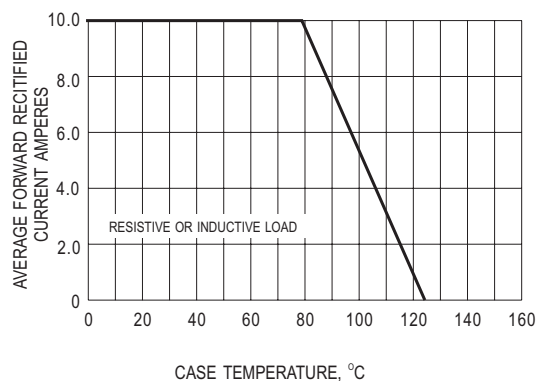
Ratings at 25°C ambient temperature unless otherwise specified.  
Resistive or inductive load.

|                                                                                                                 | SYMBOLS                            | SD1020YT    | SD1030YT  | SD1040YT  | SD1050YT  | SD1060YT  | SD1080YT  | SD10100YT | UNITS                       |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                          | $V_{RRM}$                          | 20          | 30        | 40        | 50        | 60        | 80        | 100       | Volts                       |
| Maximum RMS Voltage                                                                                             | $V_{RMS}$                          | 14          | 21        | 28        | 35        | 42        | 56        | 70        | Volts                       |
| Maximum DC Blocking Voltage                                                                                     | $V_{DC}$                           | 20          | 30        | 40        | 50        | 60        | 80        | 100       | Volts                       |
| Maximum Average Forward Rectified Current at $T_c=75^\circ\text{C}$                                             | $I_{AV}$                           | 10.0        | 10.0      | 10.0      | 10.0      | 10.0      | 10.0      | 10.0      | Amps                        |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method)                 | $I_{FSM}$                          | 200         | 200       | 200       | 200       | 200       | 200       | 200       | Amps                        |
| Maximum Instantaneous Forward Voltage at 10.0A (Note 1)                                                         | $V_F$                              | 0.55        | 0.55      | 0.55      | 0.75      | 0.75      | 0.85      | 0.85      | Volts                       |
| Maximum DC Reverse Current (Note 1) $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$ | $I_R$                              | 0.2<br>20   | 0.2<br>20 | 0.2<br>20 | 0.2<br>20 | 0.2<br>20 | 0.2<br>20 | 0.2<br>20 | mA                          |
| Maximum Thermal Resistance (Note 2)                                                                             | $R_{\theta JC}$<br>$R_{\theta JA}$ | 6<br>80     | 6<br>80   | 6<br>80   | 6<br>80   | 6<br>80   | 6<br>80   | 6<br>80   | $^\circ\text{C} / \text{W}$ |
| Operating Junction Temperature Range                                                                            | $T_J$                              | -55 to +125 |           |           |           |           |           |           | $^\circ\text{C}$            |
| Storage Temperature Range                                                                                       | $T_{STG}$                          | -65 to +150 |           |           |           |           |           |           | $^\circ\text{C}$            |

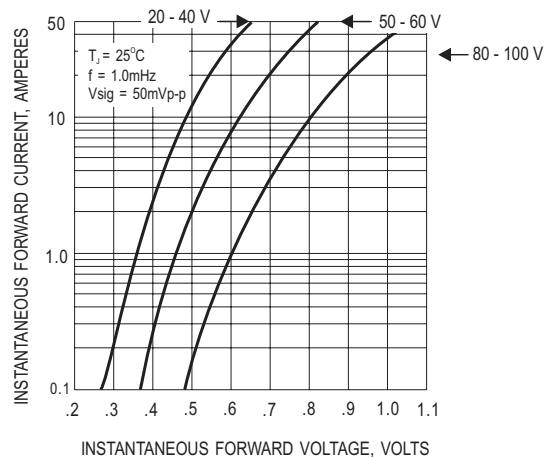
### NOTES

1. Pulse test with  $PW=300\mu\text{sec}$ , 2% Duty Cycle.
2. Mounted on P.C. Board with 14mm<sup>2</sup> (.013mm thick) copper pad areas.

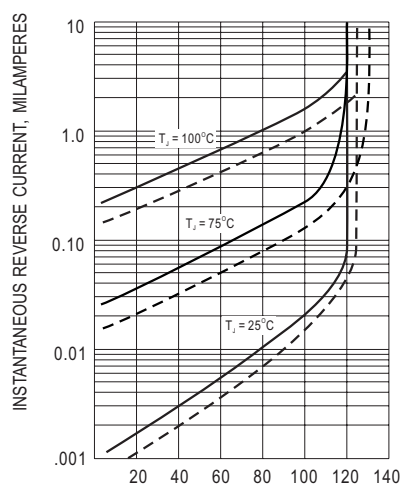
## RATING AND CHARACTERISTIC CURVES



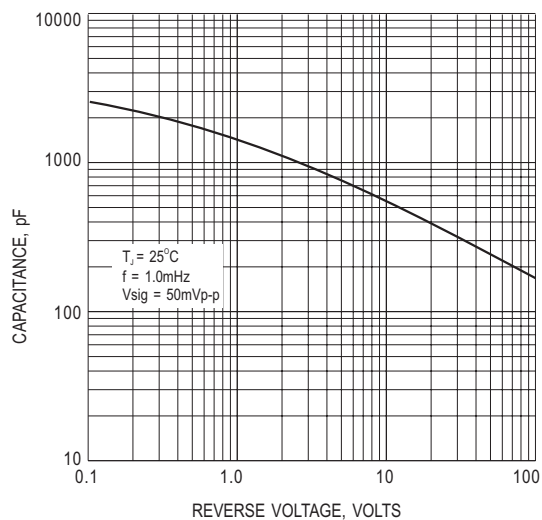
**Fig.1- FORWARD CURRENT DERATING CURVE**



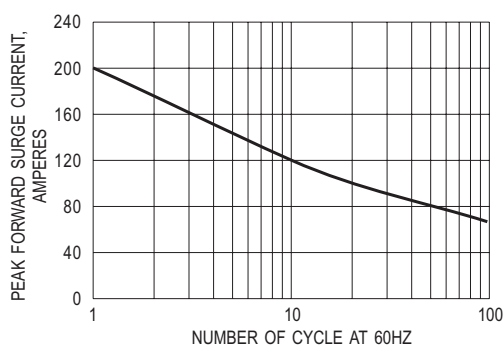
**Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC**



**Fig.3- TYPICAL REVERSE CHARACTERISTIC**



**Fig.4- TYPICAL JUNCTION CAPACITANCE**



**Fig.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**