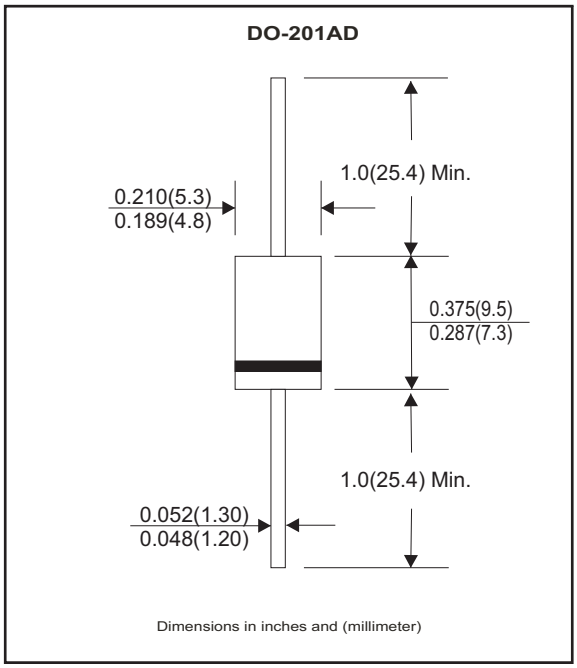
# SB320-G Thru. SB3100-G

## Voltage: 20 to 100 V
## Current: 3.0 A
## RoHS Device




## Features

-Low drop down voltage.

-Metal-Semiconductor junction with guard ring

-High surge current capability

-Silicon epitaxial planar chips.

-For use in low voltage, high efficiency inverters, free wheeling, and polarity protection applications

-Lead-free part, meet RoHS requirements.

## Mechanical data

-Epoxy: UL94-V0 rated flame retardant

-Case: Molded plastic body DO-201AD

-Terminals: Solderable per MIL-STD-750 Method 2026

-Polarity: Color band denotes cathode end

-Mounting Position: Any

-Weight: 1.12grams

## Electrical Characteristics (at $T_A$=25°C unless otherwise noted)

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | SB 320-G | SB 340-G | SB 345-G | SB 350-G | SB 360-G | SB 380-G | SB 3100-G | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Maximum recurrent peak reverse voltage | $V_{RRM}$ | 20 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum RMS voltage | $V_{RMS}$ | 14 | 28 | 30 | 35 | 42 | 56 | 70 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 20 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at TA=100°C, See Figure 1 | $I_{(AV)}$ | 3.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) TL=110°C | $I_{FSM}$ | 80 | | | | | | | A |
| Maximum forward voltage at 3.0A | $V_F$ | 0.50 | | | 0.70 | | 0.85 | | V |
| Maximum DC reverse current $T_A$=25°C | $I_R$ | 0.5 | | | | | | | mA |
| At rated DC blocking voltage $T_A$=100°C | | 20 | | | | | 10 | | |
| Typical junction capacitance (Note 1) | $C_J$ | 250 | | | | | 90 | | pF |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$<br>$R_{\theta JL}$ | 40.0<br>20.0 | | | | | | | °C/W |
| Operating junction temperature range | $T_J$ | -55 to +125 | | | -55 to +150 | | | | °C |
| Storage temperature range | $T_{STG}$ | -55 to +150 | | | | | | | °C |

NOTES:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Thermal resistance junction to ambient and junction to lead.

## RATING AND CHARACTERISTIC CURVES (SB320-G Thru. SB3100-G)

Fig.1- Forward Current Derating Curve

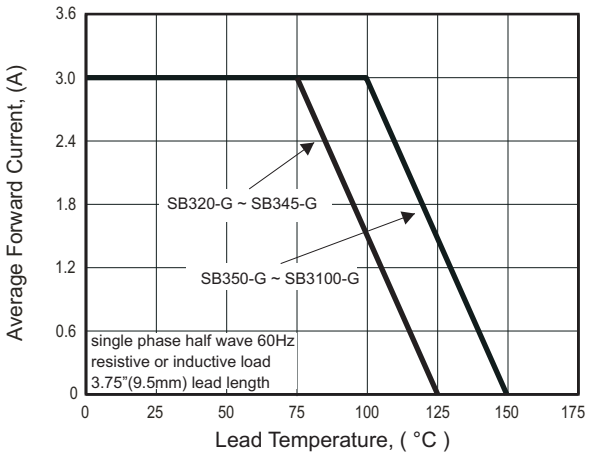



Fig.2 - Maximum Non-repetitive Peak Forward Surge Current

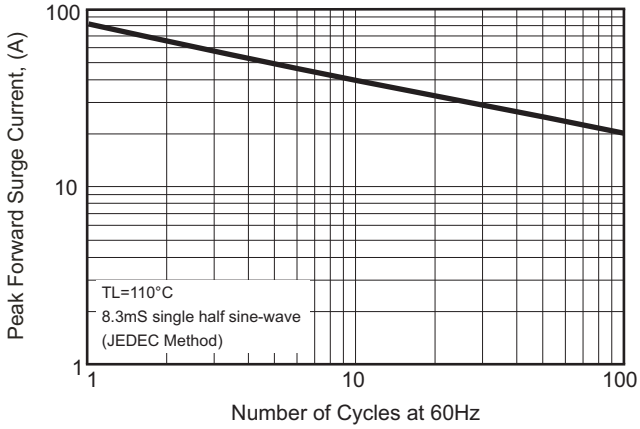



Fig.3 - Typical Instantaneous Forward Characteristics

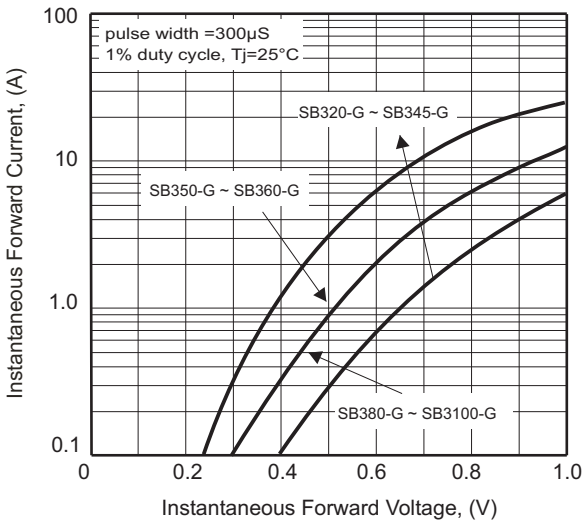



Fig.4A - Typical Reverse Characteristics

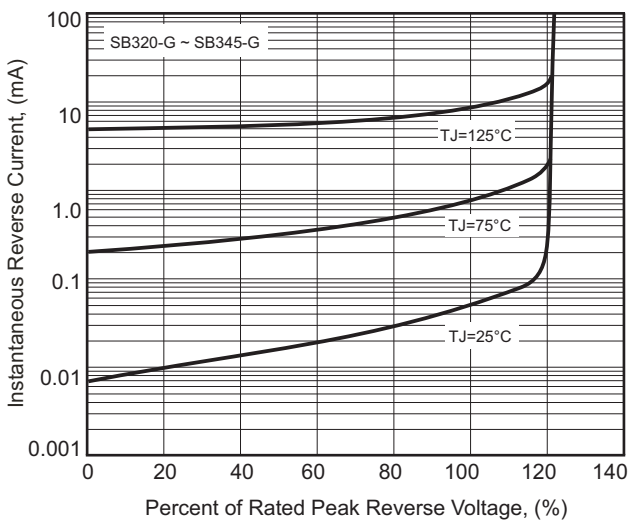



Fig.5 - Typical Junction Capacitance

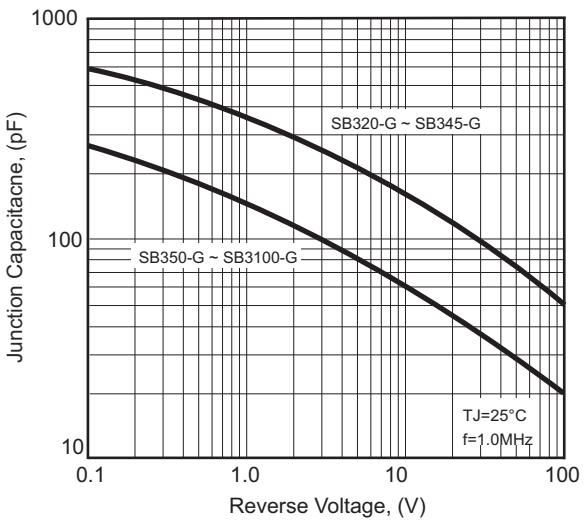
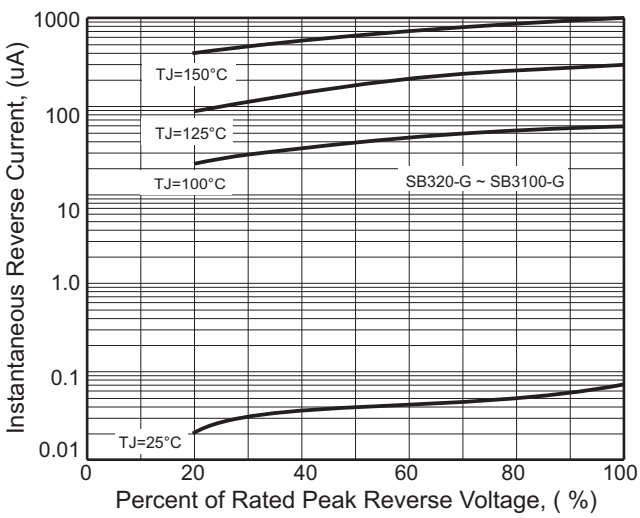



Fig. 4B - Typeical Reverse Characteristic



## Marking Code

| Part Number | Marking code | Packaging |
|---|---|---|
| SB320T-G | SB320 | AMMO REEL |
| SB340T-G | SB340 | AMMO REEL |
| SB345T-G | SB345 | AMMO REEL |
| SB350T-G | SB350 | AMMO REEL |
| SB360T-G | SB360 | AMMO REEL |
| SB380T-G | SB380 | AMMO REEL |
| SB3100T-G | SB3100 | AMMO REEL |
| SB320B-G | SB320 | BULK |
| SB340B-G | SB340 | BULK |
| SB345B-G | SB345 | BULK |
| SB350B-G | SB350 | BULK |
| SB360B-G | SB360 | BULK |
| SB380B-G | SB380 | BULK |
| SB3100B-G | SB3100 | BULK |


**XXX / XXXX = Product type marking code**

Note:

1) Suffix code after part number to specify packaging item .

| Packaging | Code |
|---|---|
| AMMO Reel PACK | T |
| BULK PACK | B |

## Standard Packaging

| Case Type | REEL PACK | |
|---|---|---|
| | REEL ( pcs ) | Reel Size (inch) |
| DO-201AD | 1,200 | 13 |

| Case Type | BULK PACK | |
|---|---|---|
| | BOX ( pcs ) | CARTON ( pcs ) |
| DO-201AD | 200 | 12,000 |