

## AXIAL SILASTIC GUARD JUNCTION STANDARD RECTIFIER

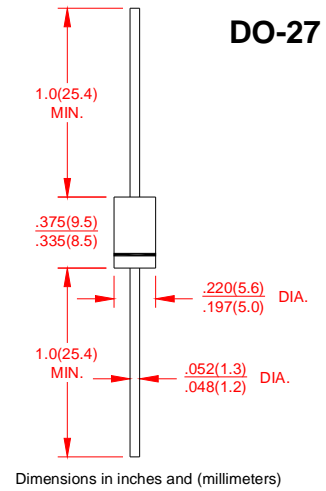
|                         |                      |                          |
|-------------------------|----------------------|--------------------------|
| <b>BY251 THRU BY255</b> | <b>VOLTAGE RANGE</b> | <b>200 to 1300 Volts</b> |
|                         | <b>CURRENT</b>       | <b>3.0 Ampere</b>        |

### FEATURES

- Low coat construction
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042 ounce, 1.19 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

|   | SYMBOLS                   | BY251       | BY252 | BY253 | BY254 | BY255 | UNIT                      |
|---|---------------------------|-------------|-------|-------|-------|-------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$                 | 200         | 400   | 600   | 800   | 1300  | Volts                     |
| Maximum RMS Voltage   | $V_{RMS}$                 | 140         | 280   | 420   | 560   | 910   | Volts                     |
| Maximum DC Blocking Voltage   | $V_{DC}$                  | 200         | 400   | 600   | 800   | 1300  | Volts                     |
| Maximum Average Forward Rectified Current<br>0.375”(9.5mm) lead length at $T_A=75^\circ\text{C}$            | $I_{(AV)}$                | 3.0         |       |       |       |       | Amps                      |
| Peak Forward Surge Current<br>8.3ms single half sine wave superimposed on<br>rated load (JEDEC method)      | $I_{FSM}$                 | 125         |       |       |       |       | Amps                      |
| Maximum Instantaneous Forward Voltage @ 3.0A  | $V_F$                     | 1.1         |       |       |       |       | Volts                     |
| Maximum DC Reverse Current at Rated<br>DC Blocking Voltage per element                                      | $T_A = 25^\circ\text{C}$  | 5.0         |       |       |       |       | $\mu\text{A}$             |
|   | $T_A = 100^\circ\text{C}$ | 50          |       |       |       |       |                           |
| Maximum Full Load Reverse Current, full cycle average<br>0.375”(9.5mm)lead length at $T_L=75^\circ\text{C}$ | $I_{R(AV)}$               | 500         |       |       |       |       | $\mu\text{A}$             |
| Typical Junction Capacitance (Note 1)   | $C_J$                     | 40          |       |       |       |       | pF                        |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JA}$           | 30          |       |       |       |       | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range  | $T_J$                     | -55 to +150 |       |       |       |       | $^\circ\text{C}$          |
| Storage Temperature Range   | $T_{STG}$                 | -55 to +150 |       |       |       |       | $^\circ\text{C}$          |

#### Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.
2. Thermal Resistance from junction to ambient at .375”(9.5mm) lead length, P.C.board mounted.



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BY251 THRU BY255

VOLTAGE RANGE  
CURRENT

200 to 1300 Volts  
3.0 Ampere

## RATING AND CHARACTERISTIC CURVES BY251 Thru BY255

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

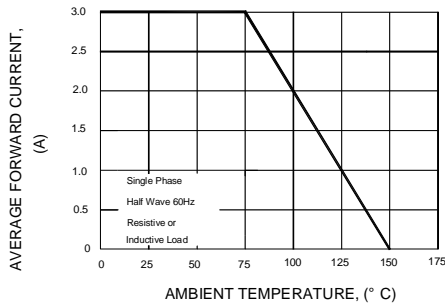


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

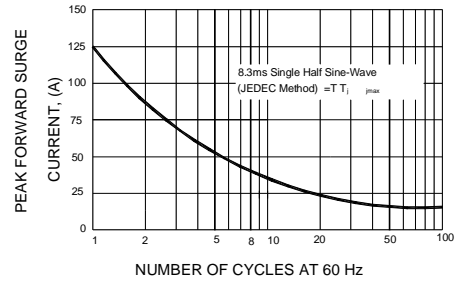


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

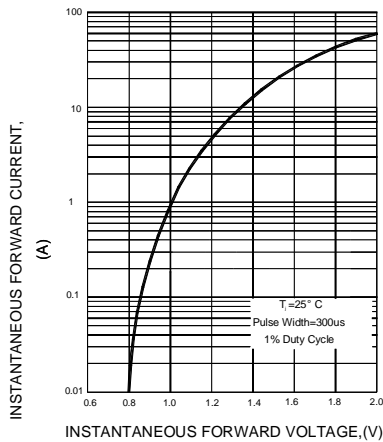


FIG.4-TYPICAL REVERSE CHARACTERISTICS

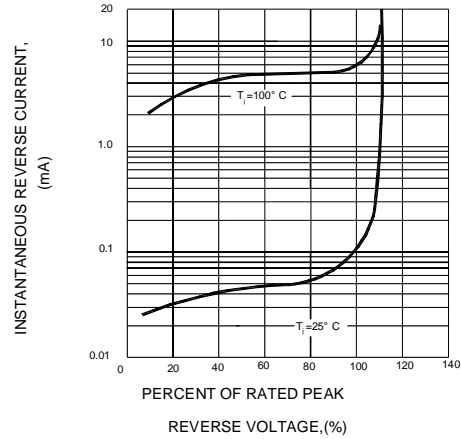


FIG.5-TYPICAL JUNCTION CAPACITANCE

