



BY251GP thru BY255GP

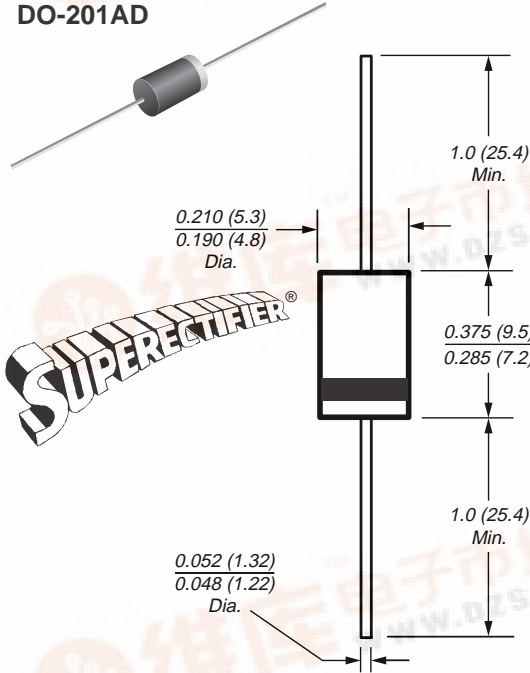
New Product

Vishay Semiconductors
formerly General Semiconductor

Glass Passivated Junction Plastic Rectifiers

Reverse Voltage 200 to 1300V
Forward Current 3.0A

DO-201AD



Dimensions in inches and (millimeters)

* Glass-plastic encapsulation technique is covered by

Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- 3.0 Ampere operation at $T_A=55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.1\mu\text{A}$
- High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-201AD, molded plastic over glass body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.04 oz., 1.12 g

Packaging Codes/Options:

1/Bulk – 1.5K per container, 15K/box

4/1.4K per 13" reel, 5.6K/box

23/1K per ammo mag., 9K/box

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | BY251GP | BY252GP | BY253GP | BY254GP | BY255GP | Unit |
|--|------------------------------------|-------------|---------|---------|---------|---------|---------------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | 400 | 600 | 800 | 1300 | V |
| Maximum RMS voltage | V_{RMS} | 140 | 280 | 420 | 560 | 910 | V |
| Maximum DC blocking voltage | V_{DC} | 200 | 400 | 600 | 800 | 1300 | V |
| Maximum average forward rectified current 10mm lead length at $T_A = 55^\circ\text{C}$ | $I_{F(AV)}$ | 3.0 | | | | | A |
| Peak forward surge current 10ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 100 | | | | | A |
| Maximum full load reverse current, full cycle average 10mm lead length at $T_A = 55^\circ\text{C}$ | $I_{R(AV)}$ | 100 | | | | | μA |
| Typical thermal resistance ⁽¹⁾ | $R_{\theta JA}$ $R_{\theta JL}$ | 20 10 | | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -65 to +175 | | | | | $^\circ\text{C}$ |

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| | | | |
|---|----------|-----|---------------|
| Maximum instantaneous forward voltage at 3.0A | V_F | 1.1 | V |
| Maximum reverse current at rated DC blocking voltage $T_A = 25^\circ\text{C}$ | I_R | 5.0 | μA |
| Typical reverse recovery time $I_F = 0.5\text{A}, I_R = 1.0\text{V}, I_{rr} = 0.25\text{A}$ | t_{rr} | 3.0 | μs |
| Typical junction capacitance at 4.0V, 1MHz | C_J | 40 | pF |

Note: (1) The thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted

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Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig 1 - Forward Current Derating Curve

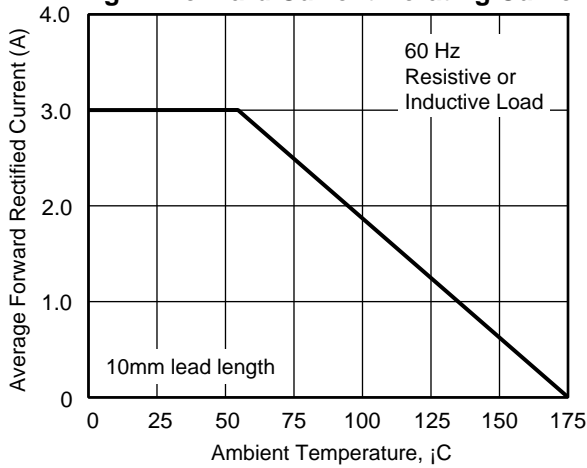


Fig 2 - Maximum Non-repetitive Peak Forward Surge Current

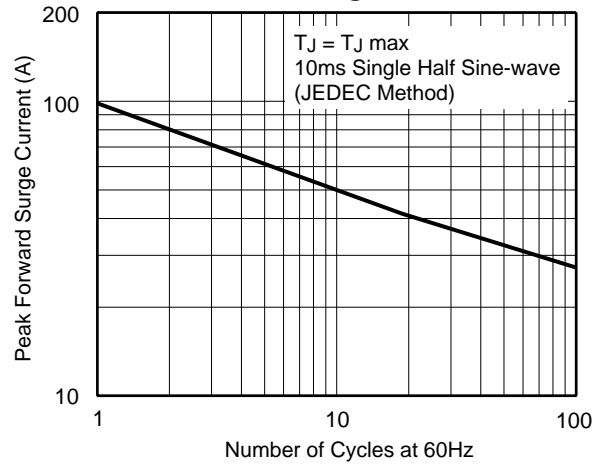


Fig 3 - Typical Instantaneous Forward Characteristics

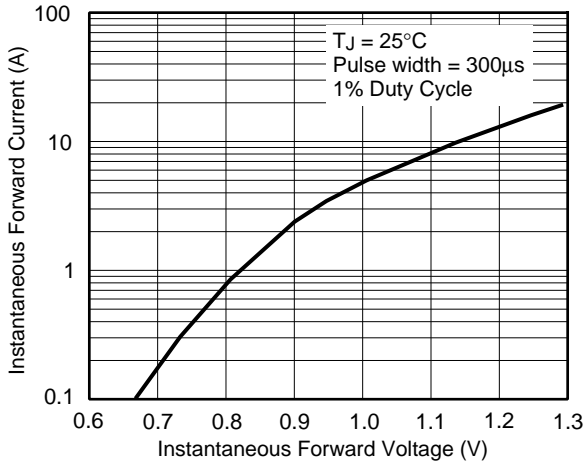


Fig 2 - Maximum Non-repetitive Peak Forward Surge Current

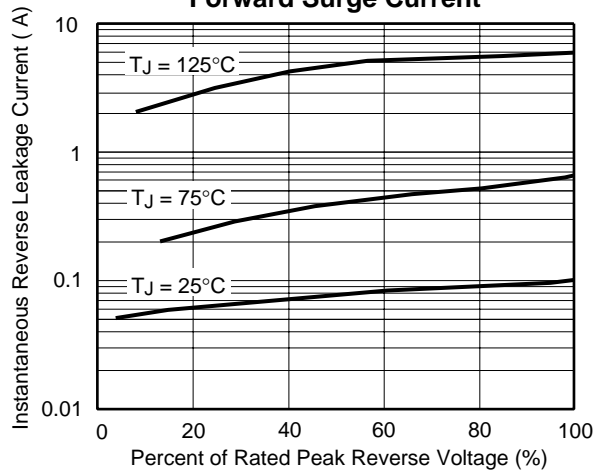


Fig 5 - Typical Junction Capacitance

