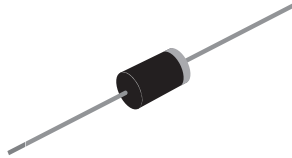


General Purpose Plastic Rectifier



DO-201AD

| PRIMARY CHARACTERISTICS | |
|-------------------------|-----------------|
| $I_{F(AV)}$ | 3.0 A |
| V_{RRM} | 200 V to 1300 V |
| I_{FSM} | 150 A |
| I_R | 5.0 μ A |
| V_F | 1.1 V |
| T_J max. | 150 °C |

FEATURES

- Low forward voltage drop
- Low leakage current, I_R less than 0.1 μ A
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.

(Note: These devices are not Q101 qualified.)

MECHANICAL DATA

Case: DO-201AD, molded epoxy body

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | | |
|--|----------------|---------------|--------|--------|--------|--------|---------|
| PARAMETER | SYMBOL | BY251P | BY252P | BY253P | BY254P | BY255P | 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 10 mm lead length | $I_{F(AV)}$ | 3.0 | | | | | A |
| Peak forward surge current 10 ms single half sine-wave superimposed on rated load | I_{FSM} | 150 | | | | | A |
| Maximum full load reverse current, full cycle average 10 mm lead length | $I_{R(AV)}$ | 100 | | | | | μ A |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | | | | | °C |



| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | |
|--|--|-----------------|--------|--------|--------|--------|--------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | BY251P | BY252P | BY253P | BY254P | BY255P | UNIT |
| Maximum instantaneous forward voltage | 3.0 A | V _F | | | 1.1 | | | V |
| Maximum reverse current at rated DC blocking voltage | T _A = 25 °C | I _R | | | 5.0 | | | μA |
| Typical reverse recovery time | I _F = 0.5 A, I _R = 1.0 V, I _{rr} = 0.25 A | t _{rr} | | | 3.0 | | | μs |
| Typical junction capacitance | 4.0 V, 1 MHz | C _J | | | 40 | | | pF |

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | |
|---|--------------------------------------|--------|--------|----------|--------|--------|------|--|
| PARAMETER | SYMBOL | BY251P | BY252P | BY253P | BY254P | BY255P | UNIT | |
| Typical thermal resistance ⁽¹⁾ | R _{θJA} R _{θJL} | | | 20 10 | | | °C/W | |

Note:

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

| ORDERING INFORMATION (Example) | | | | |
|--------------------------------|-----------------|------------------------|---------------|----------------------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| BY253P-E3/54 | 1.1 | 54 | 1400 | 13" diameter paper tape and reel |
| BY253P-E3/73 | 1.1 | 73 | 1000 | Ammo pack packaging |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

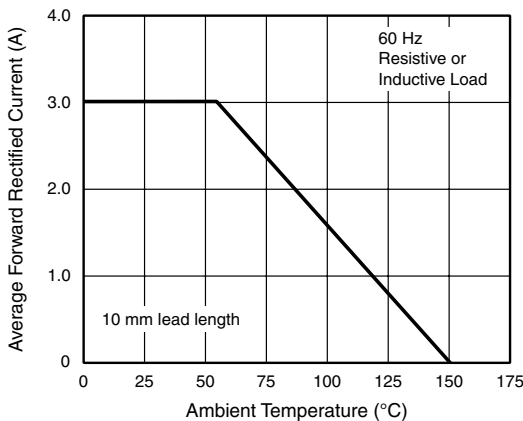


Figure 1. Forward Current Derating Curve

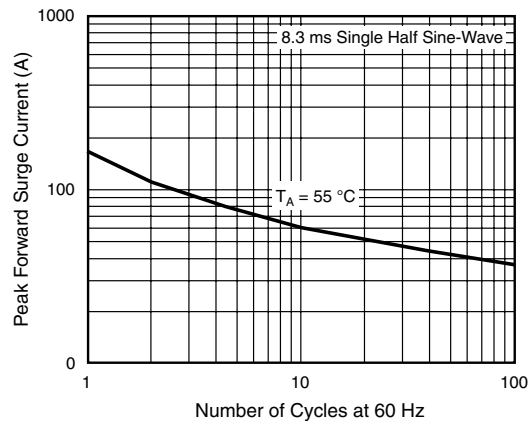


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

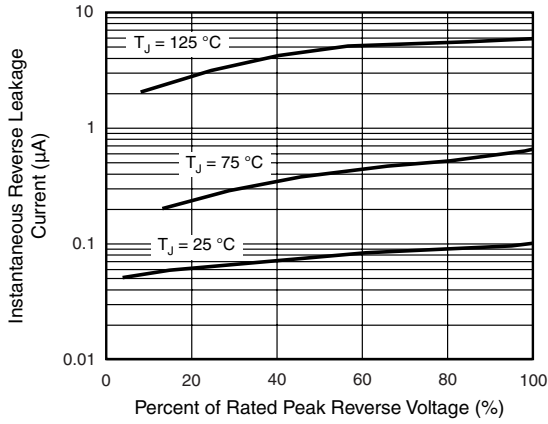


Figure 3. Maximum Non-repetitive Peak Forward Surge Current

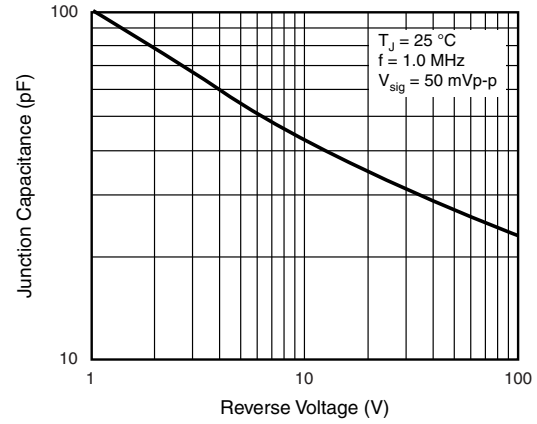


Figure 5. Typical Junction Capacitance

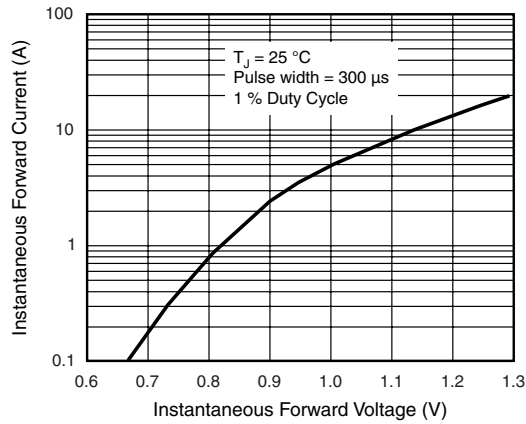
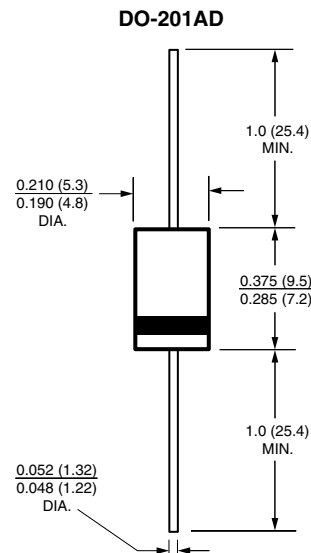


Figure 4. Typical Instantaneous Forward Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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