# 3A, 200V - 800V Standard Rectifier

## FEATURES

- High efficiency, Low $V_F$
- High current capability
- High reliability
- High surge current capability
- Low power loss
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

## APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- General purpose

## MECHANICAL DATA

- Case: DO-201AD
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 1.20g (approximately)

| KEY PARAMETERS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| $I_F$ | 3 | A |
| $V_{RRM}$ | 200 - 800 | V |
| $I_{FSM}$ | 150 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | DO-201AD | |
| Configuration | Single die | |

Pb-Free RoHS COMPLIANT HALOGEN FREE

**DO-201AD**


| **ABSOLUTE MAXIMUM RATINGS** ($T_A$ = 25°C unless otherwise noted) | | | | | | |
|---|---|---|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **BY251G** | **BY252G** | **BY253G** | **BY254G** | **UNIT** |
| Marking code on the device | | BY251G | BY252G | BY253G | BY254G | |
| Repetitive peak reverse voltage | $V_{RRM}$ | 200 | 400 | 600 | 800 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 140 | 280 | 420 | 560 | V |
| Forward current | $I_F$ | 3 | | | | A |
| Surge peak forward current, 8.3ms single half sine wave superimposed on rated load | $I_{FSM}$ | 150 | | | | A |
| Junction temperature | $T_J$ | -55 to +150 | | | | °C |
| Storage temperature | $T_{STG}$ | -55 to +150 | | | | °C |

## THERMAL PERFORMANCE

| PARAMETER | SYMBOL | TYP | UNIT |
|---|---|---|---|
| Junction-to-ambient thermal resistance | $R_{\Theta JA}$ | 40 | °C/W |

## ELECTRICAL SPECIFICATIONS ($T_A$ = 25°C unless otherwise noted)

| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
|---|---|---|---|---|---|
| Forward voltage[1] | $I_F$ = 3A, $T_J$ = 25°C | $V_F$ | - | 1.0 | V |
| Reverse current @ rated $V_R$[2] | $T_J$ = 25°C | $I_R$ | - | 5 | μA |
| | $T_J$ = 125°C | | - | 100 | μA |
| Junction capacitance | 1MHz, $V_R$ = 4.0V | $C_J$ | 40 | - | pF |

**Notes:**

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

## ORDERING INFORMATION

| ORDERING CODE[1] | PACKAGE | PACKING |
|---|---|---|
| BY25xG | DO-201AD | 1,250 / Tape & Reel |
| BY25xG A0G | DO-201AD | 500 / Ammo box |

**Notes:**

1. "x" defines voltage from 200V (BY251G) to 800V (BY254G)

## CHARACTERISTICS CURVES

($T_A$ = 25°C unless otherwise noted)

**Fig.1 Forward Current Derating Curve**

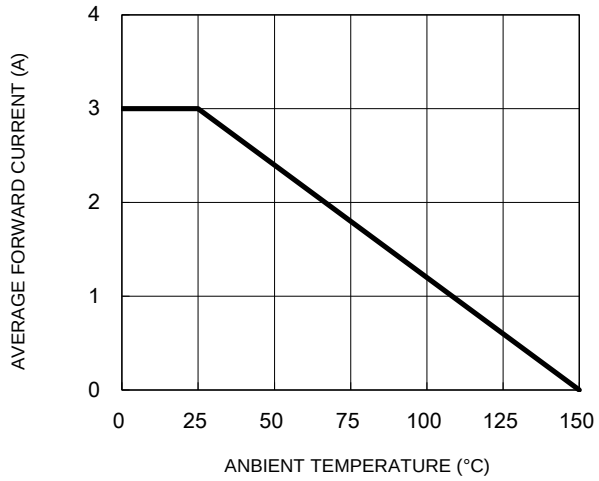



**Fig.2 Typical Junction Capacitance**

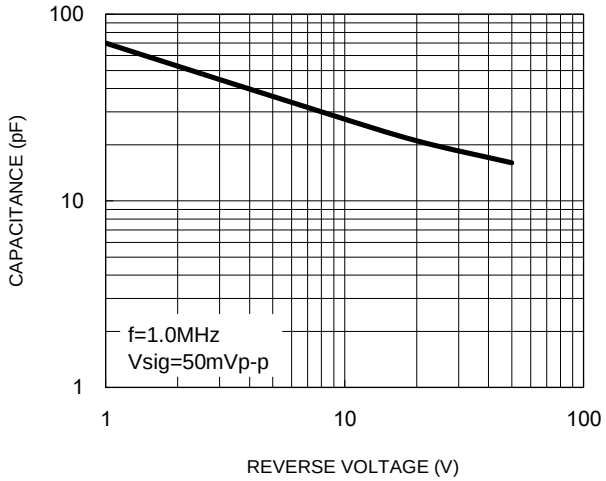



**Fig.3 Typical Reverse Characteristics**

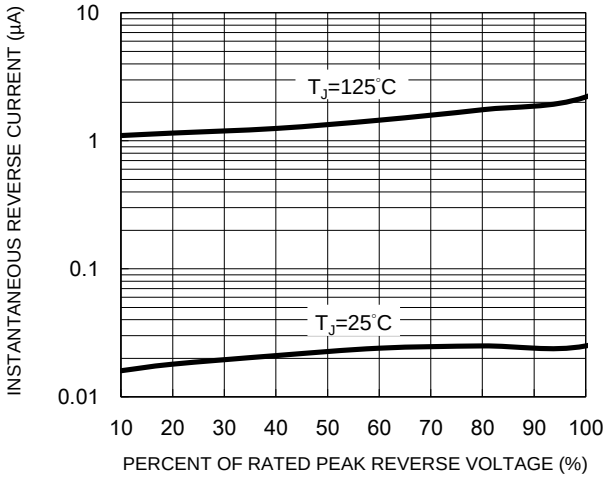



**Fig.4 Typical Forward Characteristics**

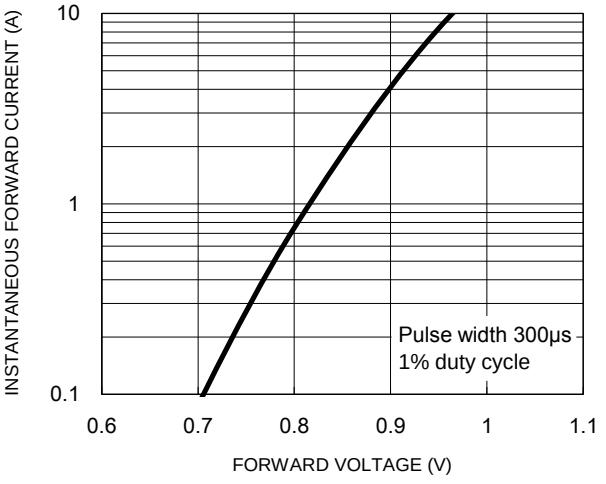
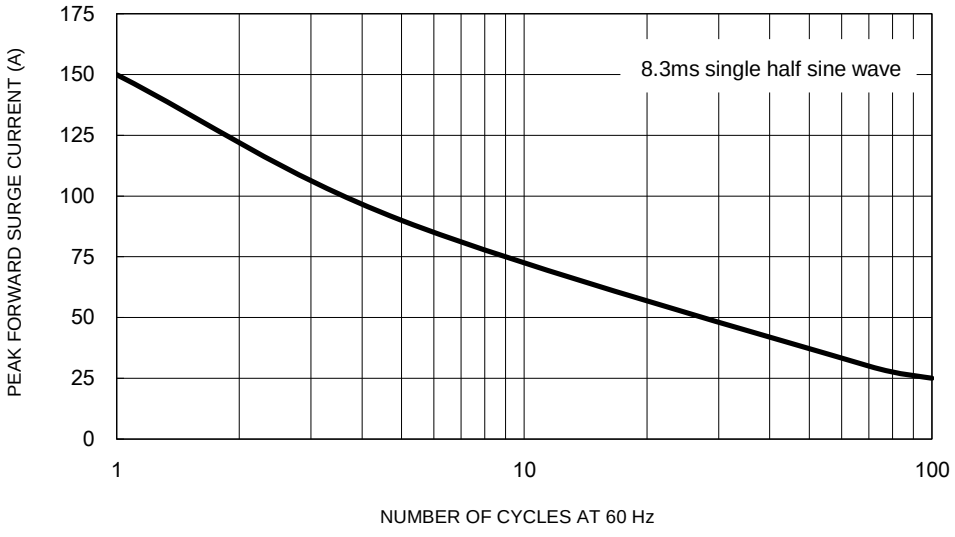
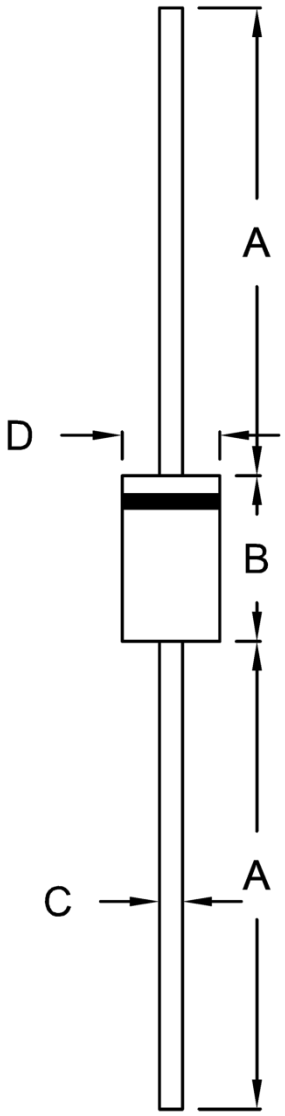



**Fig.5 Maximum Non-Repetitive Forward Surge Current**



## PACKAGE OUTLINE DIMENSIONS

DO-201AD




| DIM. | Unit (mm) | | Unit (inch) | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 25.40 | - | 1.000 | - |
| B | 8.50 | 9.50 | 0.335 | 0.374 |
| C | 1.20 | 1.30 | 0.047 | 0.051 |
| D | 5.00 | 5.60 | 0.197 | 0.220 |

## MARKING DIAGRAM


P/N = Marking Code
G = Green Compound
YWW = Date Code
F = Factory Code

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