

## Description

- High Surge Current Capability
- Low Leakage and Forward Voltage Drop
- **Lead Free Finish, RoHS Compliant (Notes 1 & 2)**

## Mechanical Data

- Case: R-6
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish — Tin. Axial Leads, Solderable per MIL-STD-202, Method 208  $\text{e3}$
- Polarity: Color Band Indicates Cathode
- Approximate Weight: 2.1 grams

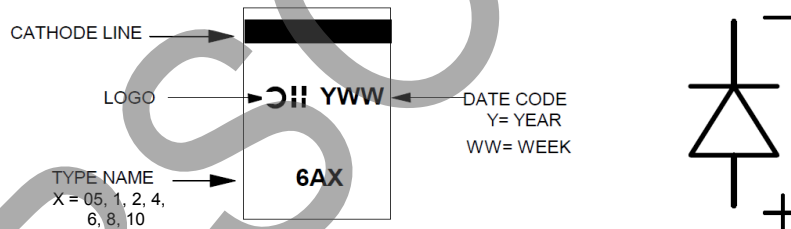
## Ordering Information (Note 3)

| Part Number | Case | Packaging                |
|-------------|------|--------------------------|
| 6A05-T      | R-6  | 500/Tape & Reel, 13-inch |
| 6A1-T       | R-6  | 500/Tape & Reel, 13-inch |
| 6A2-T       | R-6  | 500/Tape & Reel, 13-inch |
| 6A4-T       | R-6  | 500/Tape & Reel, 13-inch |
| 6A6-T       | R-6  | 500/Tape & Reel, 13-inch |
| 6A8-T       | R-6  | 500/Tape & Reel, 13-inch |
| 6A10-T      | R-6  | 500/Tape & Reel, 13-inch |

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information

B. Marking on the semiconductor:



## Maximum Ratings and Electrical Characteristics (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Ratings at  $+25^\circ\text{C}$  ambient temperature unless otherwise specified.  
Single phase, halfwave, 60Hz, resistive or inductive load.

| Characteristic   | Symbol         | 6A05        | 6A1 | 6A2 | 6A4 | 6A6 | 6A8 | 6A10 | Unit             |
|--|----------------|-------------|-----|-----|-----|-----|-----|------|------------------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$      | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| Maximum RMS Voltage  | $V_{RMS}$      | 35          | 70  | 140 | 280 | 420 | 560 | 700  | V                |
| Maximum DC Blocking Voltage  | $V_{DC}$       | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| Maximum Average Forward Rectified Current<br>9.5mm Lead Length @ $T_A = +75^\circ\text{C}$ (See Figure 1)        | $I_{(AV)}$     | 6.0         |     |     |     |     |     |      | A                |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load                                | $I_{FSM}$      | 400         |     |     |     |     |     |      | A                |
| Maximum Instantaneous Forward Voltage at 6.0A DC   | $V_{FM}$       | 0.90        |     |     |     |     |     |      | V                |
| Maximum DC Reverse Current @ $T_A = +25^\circ\text{C}$<br>at Rated Blocking Voltage @ $T_A = +100^\circ\text{C}$ | $I_{RM}$       | 10<br>100   |     |     |     |     |     |      | $\mu\text{A}$    |
| Operating and Storage Temperature Range  | $T_J, T_{STG}$ | -65 to +175 |     |     |     |     |     |      | $^\circ\text{C}$ |

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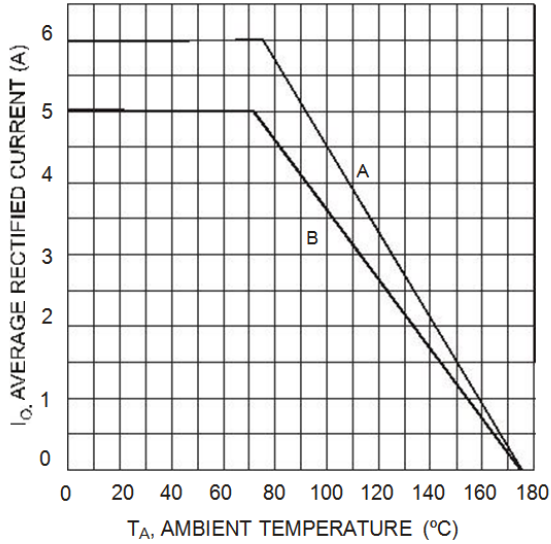
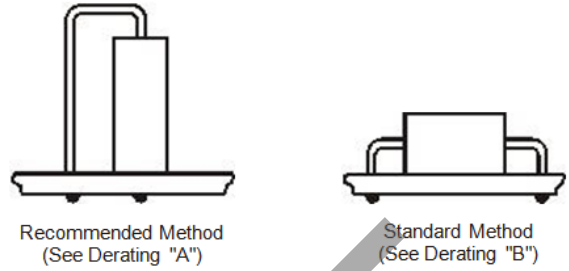


Fig. 1 Output Current Derating Curve



Ground Plane: 25mm<sup>2</sup> equivalent copper surface area

Printed Circuit Board Mounting Method

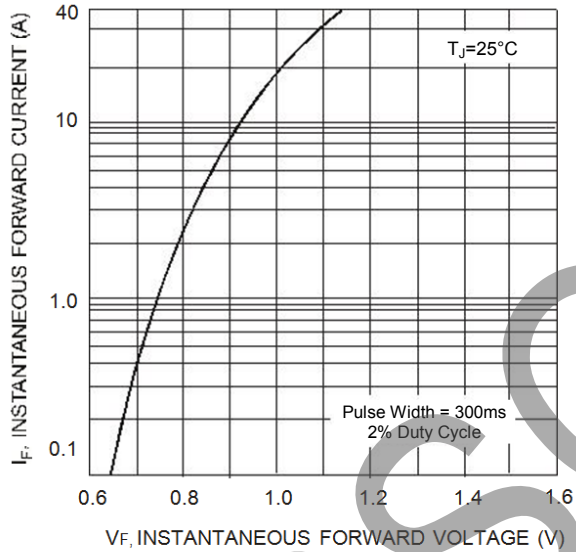


Fig. 2 Typical Forward Characteristics

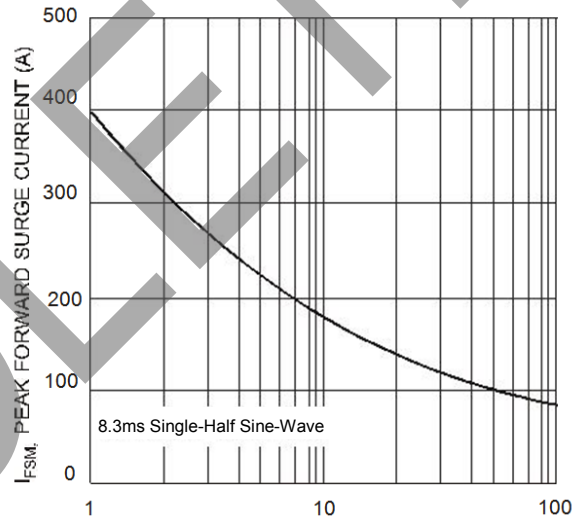


Fig. 3 Maximum Non-Repitative Peak Forward Surge Current

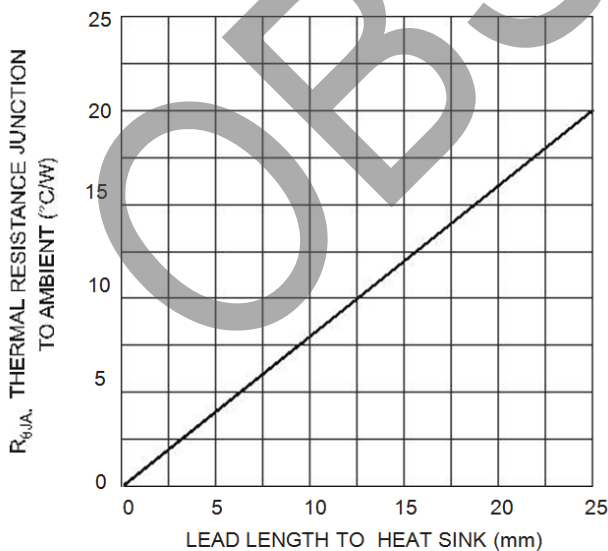
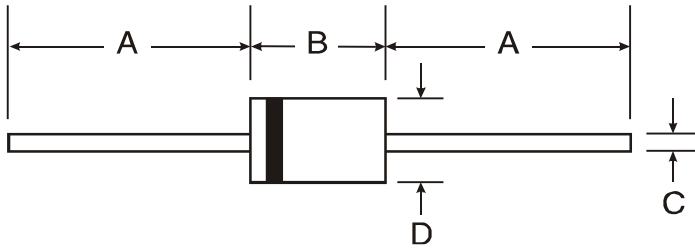


Fig. 4 Typical Thermal Resistance (Using Standard Mounting Method "B")

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

R-6



| R-6                  |       |      |
|----------------------|-------|------|
| Dim                  | Min   | Max  |
| A                    | 25.40 | -    |
| B                    | 8.60  | 9.10 |
| C                    | 1.20  | 1.30 |
| D                    | 8.60  | 9.10 |
| All Dimensions in mm |       |      |

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