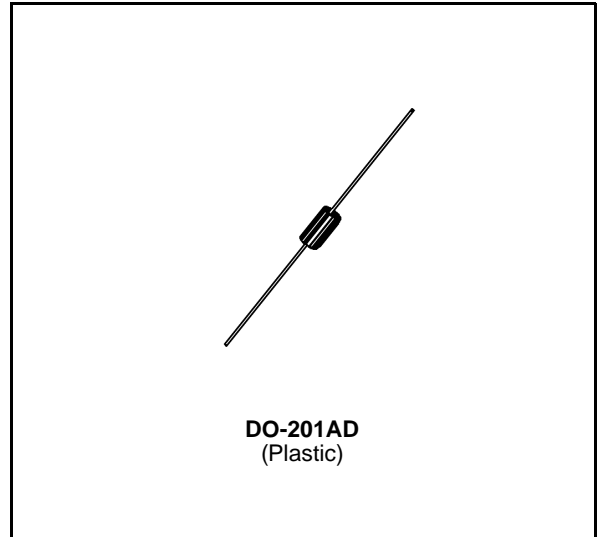




## FAST RECOVERY RECTIFIER DIODES

- SOFT RECOVERY
- VERY HIGH VOLTAGE
- SMALL RECOVERY CHARGE



### APPLICATIONS

- ANTISATURATION DIODES FOR TRANSISTOR BASE DRIVE
- SNUBBER DIODES

### ABSOLUTE MAXIMUM RATINGS (limiting values)

| Symbol             | Parameter  |                                      | Value                          | Unit       |
|--------------------|--|--------------------------------------|--------------------------------|------------|
| $I_{FRM}$          | Repetive Peak Forward Current                                      | $t_p \leq 20\mu s$                   | 50                             | A          |
| $I_{F(AV)}$        | Average Forward Current *  | $T_a = 55^\circ C$<br>$\delta = 0.5$ | 3                              | A          |
| $I_{FSM}$          | Surge non Repetitive Forward Current                               | $t_p = 10ms$<br>Sinusoidal           | 100                            | A          |
| $P_{tot}$          | Power Dissipation *  | $T_a = 55^\circ C$                   | 3.75                           | W          |
| $T_{stg}$<br>$T_j$ | Storage and Junction Temperature Range                             |                                      | - 40 to + 150<br>- 40 to + 150 | $^\circ C$ |
| $T_L$              | Maximum Lead Temperature for Soldering during 10s at 4mm from Case |                                      | 230                            | $^\circ C$ |

| Symbol    | Parameter                       | BYT 13- |     |      | Unit |
|-----------|---------------------------------|---------|-----|------|------|
|           |                                 | 600     | 800 | 1000 |      |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage | 600     | 800 | 1000 | V    |

### THERMAL RESISTANCE

| Symbol        | Parameter         | Value | Unit         |
|---------------|-------------------|-------|--------------|
| $R_{th(j-a)}$ | Junction-ambient* | 25    | $^\circ C/W$ |

\* On infinite heatsink with 10mm lead length.

**ELECTRICAL CHARACTERISTICS**

STATIC CHARACTERISTICS

| Symbol | Test Conditions          |                   | Min. | Typ. | Max. | Unit          |
|--------|--------------------------|-------------------|------|------|------|---------------|
| $I_R$  | $T_j = 25^\circ\text{C}$ | $V_R = V_{RRM}$   |      |      | 20   | $\mu\text{A}$ |
| $V_F$  | $T_j = 25^\circ\text{C}$ | $I_F = 3\text{A}$ |      |      | 1.3  | V             |

RECOVERY CHARACTERISTICS

| Symbol   | Test Conditions          |                     |                   |                         | Min. | Typ. | Max. | Unit |
|----------|--------------------------|---------------------|-------------------|-------------------------|------|------|------|------|
| $t_{rr}$ | $T_j = 25^\circ\text{C}$ | $I_F = 0.5\text{A}$ | $I_R = 1\text{A}$ | $I_{rr} = 0.25\text{A}$ |      |      | 150  | ns   |

To evaluate the conduction losses use the following equations:

$$V_F = 0.95 + 0.050 I_F \quad P = 0.95 \times I_{F(AV)} + 0.050 I_{F(RMS)}^2$$

Figure 1. Maximum average power dissipation versus average forward current.

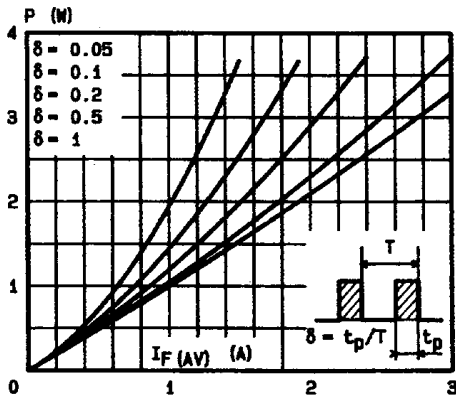


Figure 2. Average forward current versus ambient temperature.

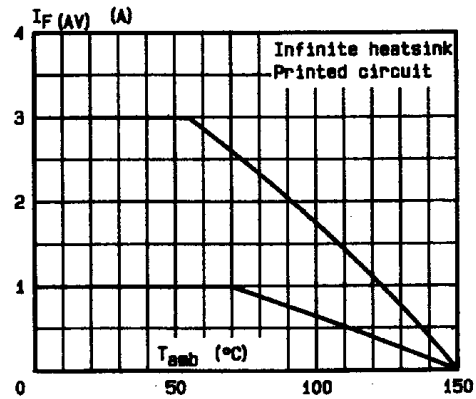
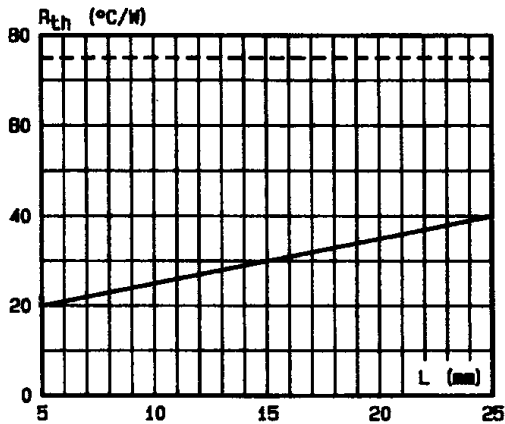


Figure 3. Thermal resistance versus lead length.



Mounting n°1  
INFINITE HEATSINK

Mounting n°2  
PRINTED CIRCUIT

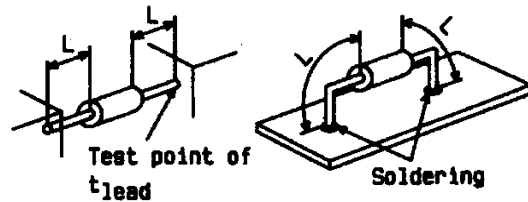


Figure 4. Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

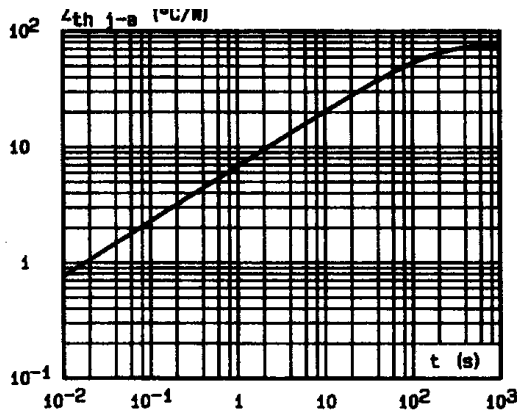


Figure 5. Peak forward current versus peak forward voltage drop (maximum values).

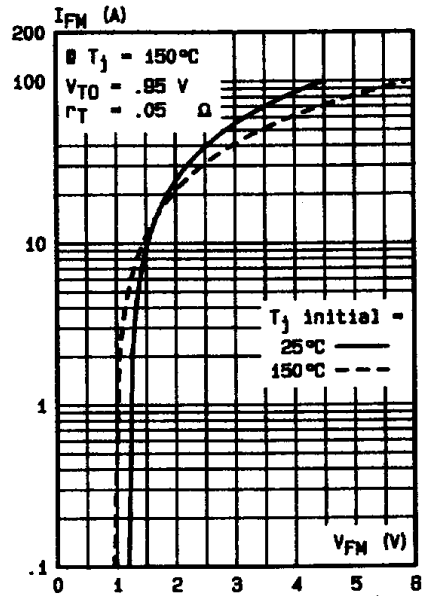


Figure 6. Capacitance versus reverse applied voltage

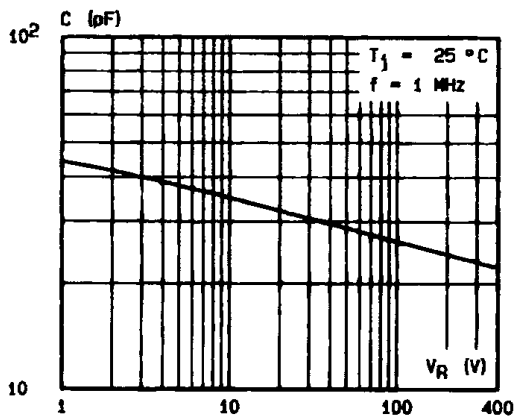
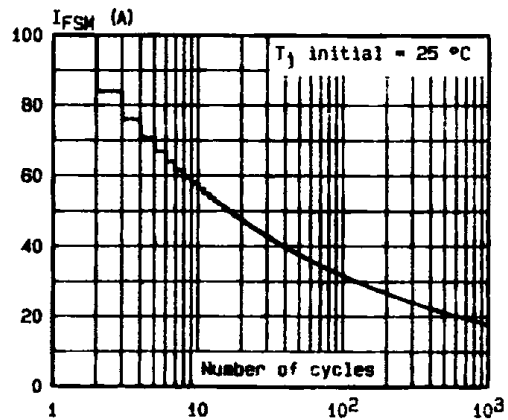
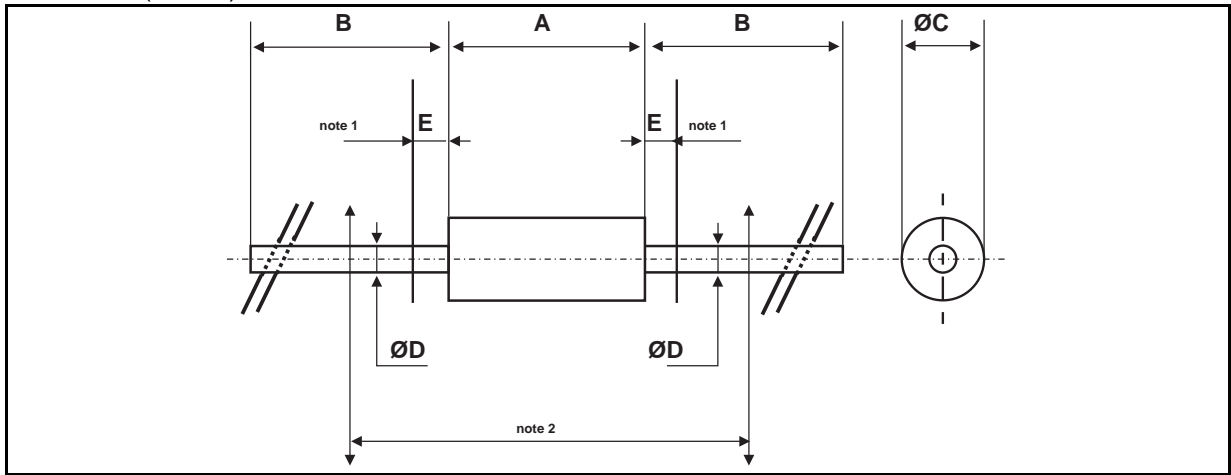


Figure 7. Non repetitive surge peak current versus number of cycles



PACKAGE MECHANICAL DATA

DO-201AD (Plastic)



| REF.            | DIMENSIONS  |      |        |       | NOTES   |
|-----------------|-------------|------|--------|-------|---|
|                 | Millimeters |      | Inches |       |   |
|                 | Min.        | Max. | Min.   | Max.  |   |
| A               |             | 9.50 |        | 0.374 | 1 - The lead diameter $\varnothing D$ is not controlled over zone E<br>2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59"(15 mm) |
| B               | 25.40       |      | 1.000  |       |   |
| $\varnothing C$ |             | 5.30 |        | 0.209 |   |
| $\varnothing D$ |             | 1.30 |        | 0.051 |   |
| E               |             | 1.25 |        | 0.049 |   |

- **Marking** : type number, white band indicates cathode
- **Cooling method** : by convection (method A)
- **Weight** : 1.166g

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