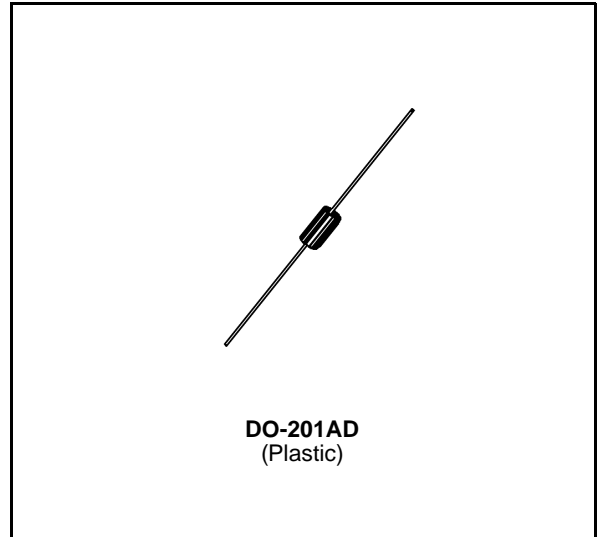




## FAST RECOVERY RECTIFIER DIODES

- 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.

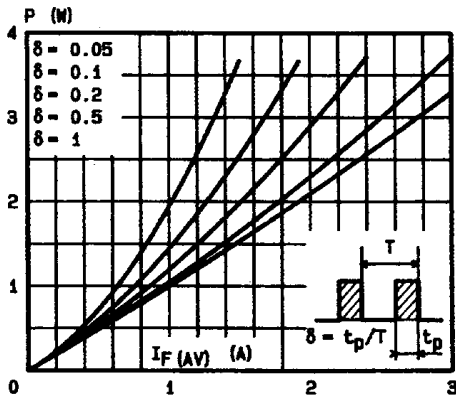


Figure 2. Average forward current versus ambient temperature.

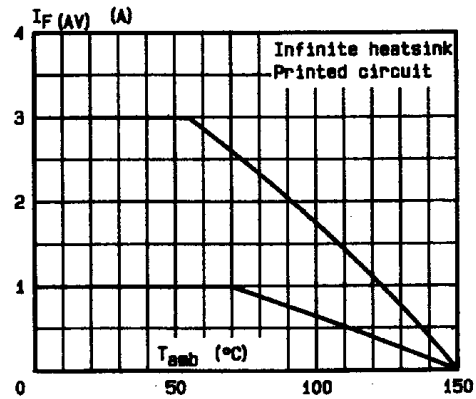
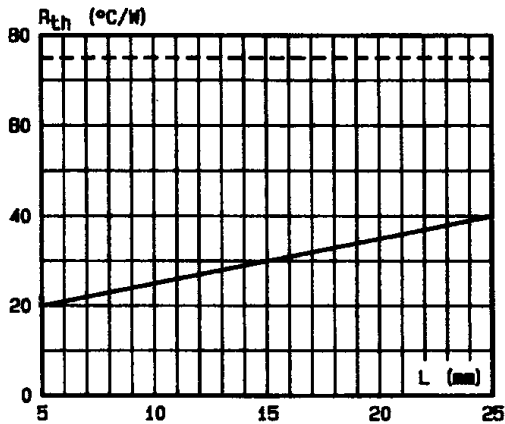


Figure 3. Thermal resistance versus lead length.



Mounting n°1  
INFINITE HEATSINK

Mounting n°2  
PRINTED CIRCUIT

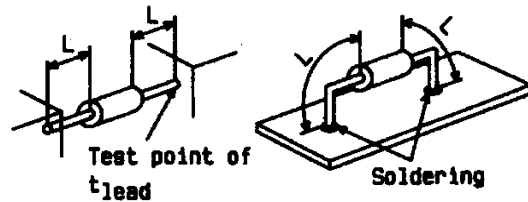


Figure 4. Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

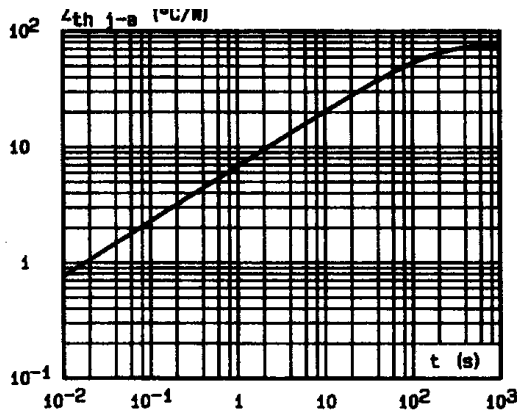


Figure 5. Peak forward current versus peak forward voltage drop (maximum values).

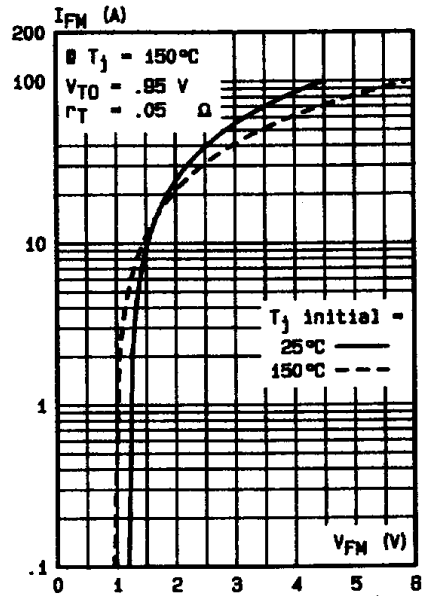


Figure 6. Capacitance versus reverse applied voltage

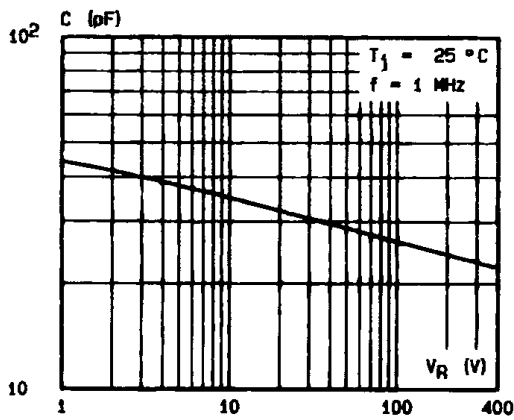
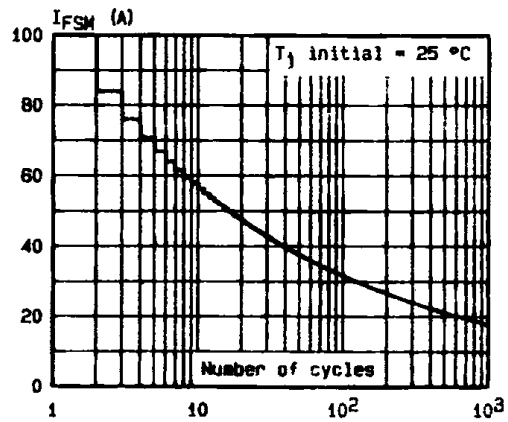
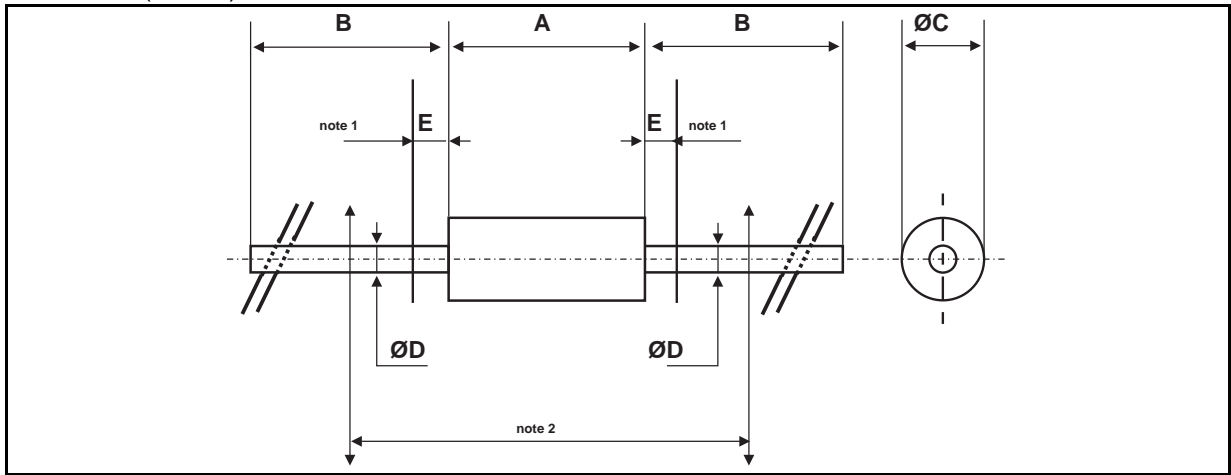


Figure 7. Non repetitive surge peak current versus number of cycles



**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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