

FAST RECOVERY RECTIFIER DIODES

PRELIMINARY DATASHEET

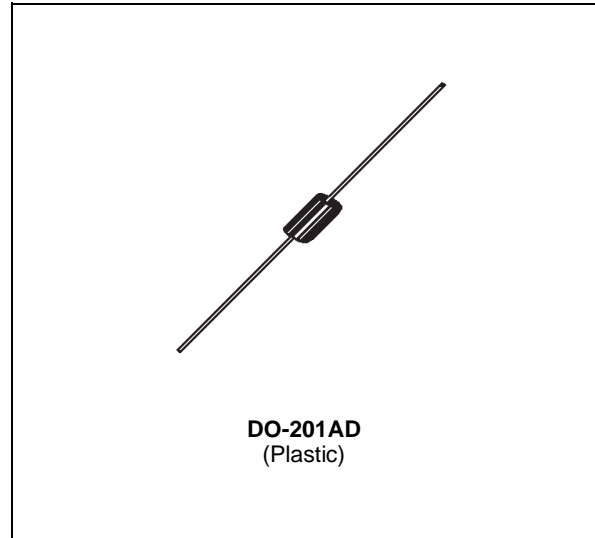
- LOW FORWARD VOLTAGE DROP
- HIGH SURGE CURRENT CAPABILITY

APPLICATIONS

- AC-DC POWER SUPPLIES AND CONVERTERS
- FREE WHEELING DIODES, etc.

DESCRIPTION

Their high efficiency and high reliability combined with small size and low cost make these fast recovery rectifier diodes very attractive components for many demanding applications.



ABSOLUTE MAXIMUM RATINGS (limiting values)

| Symbol | Parameter | | Value | Unit |
|--------------------|--------------------------------------------------------------------|--------------------------------------|--------------------------------|------------|
| I_{FRM} | Repetitive Peak Forward Current | $t_p \leq 20\mu s$ | 100 | A |
| $I_F (AV)$ | Average Forward Current* | $T_a = 90^\circ C$ $\delta = 0.5$ | 3 | A |
| I_{FSM} | Surge non Repetitive Forward Current | $t_p = 10ms$ Sinusoidal | 100 | A |
| P_{tot} | Power Dissipation* | $T_a = 90^\circ C$ | 3.5 | W |
| T_{stg} T_j | Storage and Junction Temperature Range | | - 40 to + 175 - 40 to + 175 | $^\circ C$ |
| T_L | Maximum Lead Temperature for Soldering during 10s at 4mm from case | | 230 | $^\circ C$ |

| Symbol | Parameter | PFR | | | | | Unit |
|-----------|-------------------------------------|------|------|------|------|------|------|
| | | 850S | 851S | 852S | 854S | 856S | |
| V_{RRM} | Repetitive Peak Reverse Voltage | 50 | 100 | 200 | 400 | 600 | V |
| V_{RSM} | Non Repetitive Peak Reverse Voltage | 75 | 150 | 250 | 450 | 650 | V |

THERMAL RESISTANCE

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

* On infinite heatsink with 10mm lead length.

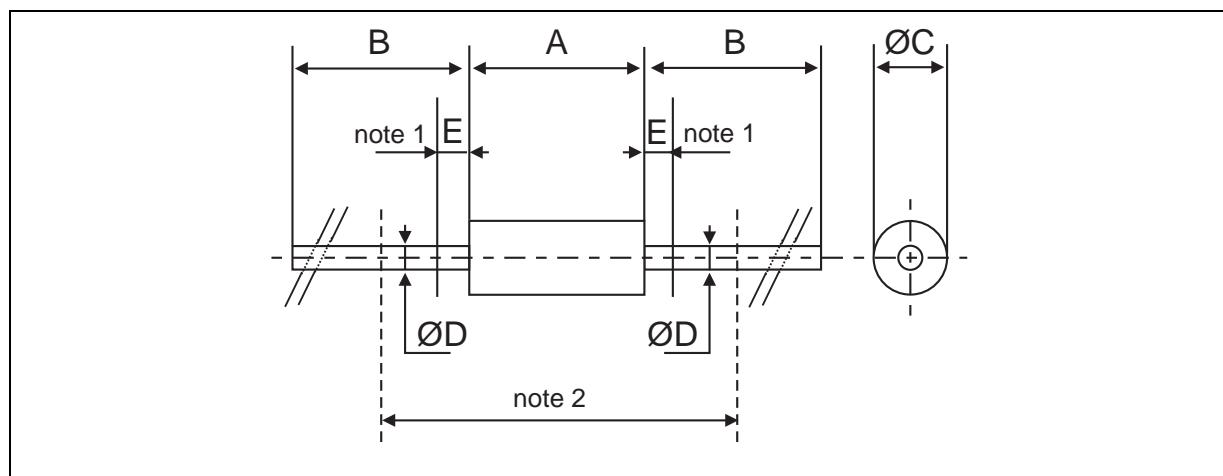
ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

| Symbol | Test Conditions | | Min. | Typ. | Max. | Unit |
|----------------|------------------------|-------------------------------------|------|------|------|------|
| I _R | T _j = 25°C | V _R = V _R RRM | | | 10 | μA |
| | T _j = 100°C | | | | 250 | |
| V _F | T _j = 25°C | I _F = 3A | | | 1.25 | V |

RECOVERY CHARACTERISTICS

| Symbol | Test Conditions | | Min. | Typ. | Max. | Unit |
|-----------------|-----------------------|--------------------------------|------|------|------|------|
| t _{rr} | T _j = 25°C | I _F = 1A | | | 150 | ns |
| | V _R = 30V | di _F /dt = - 25A/μs | | | 200 | |
| I _{RM} | T _j = 25°C | I _F = 1A | | | 2 | A |
| | V _R = 30V | di _F /dt = - 25A/μs | | | | |

PACKAGE MECHANICAL DATA
DO-201AD


| 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 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 | |

Weight : 1 g

Marking : Type number

White band indicates cathode

cooling method : by convection (method A)

Date code

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