

## FAST RECOVERY RECTIFIER DIODES

PRELIMINARY DATASHEET

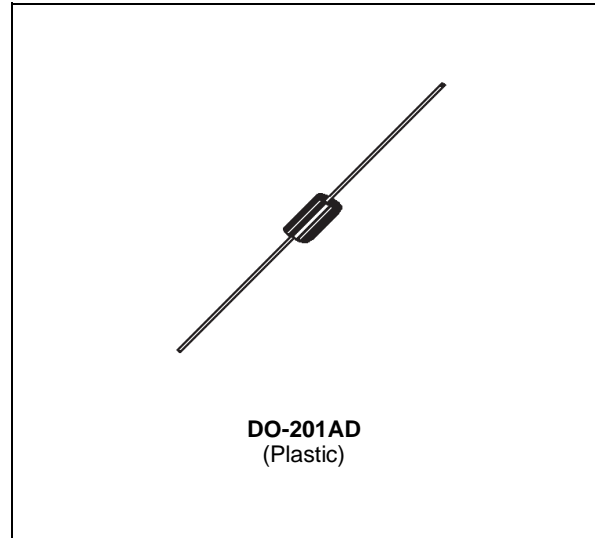
- LOW FORWARD VOLTAGE DROP
- HIGH SURGE CURRENT CAPABILITY

### 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**

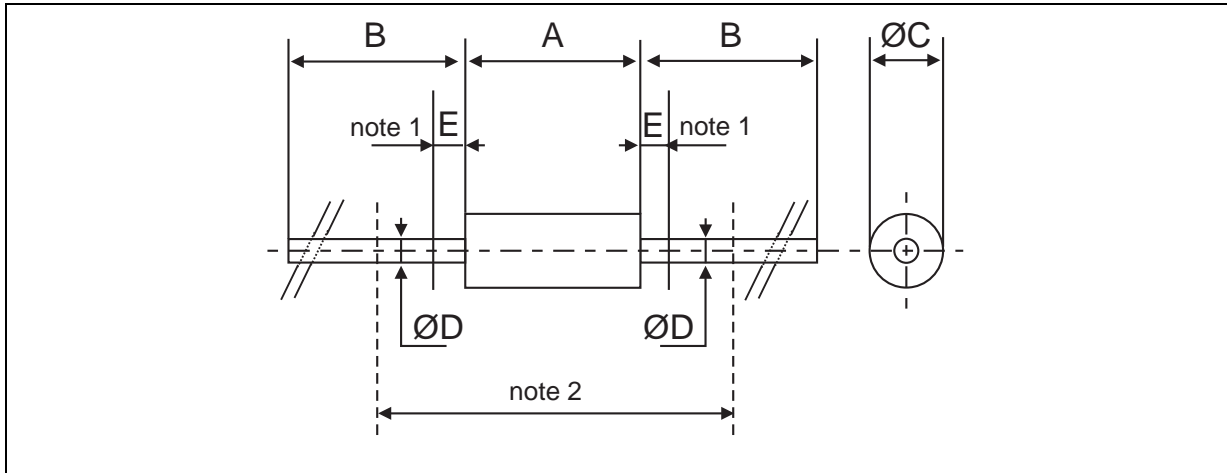
**STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub>	T <sub>j</sub> = 25°C	V <sub>R</sub> = V <sub>R<sub>RRM</sub></sub>			10	μA
	T <sub>j</sub> = 100°C				250	
V <sub>F</sub>	T <sub>j</sub> = 25°C	I <sub>F</sub> = 3A			1.25	V

**RECOVERY CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t <sub>rr</sub>	T <sub>j</sub> = 25°C V <sub>R</sub> = 30V	I <sub>F</sub> = 1A			150	ns
		PRF 850S → 854S			200	
I <sub>RM</sub>	T <sub>j</sub> = 25°C V <sub>R</sub> = 30V	I <sub>F</sub> = 1A			2	A
		di <sub>F</sub> /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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