



FAST RECOVERY RECTIFIER DIODE

PRELIMINARY DATASHEET

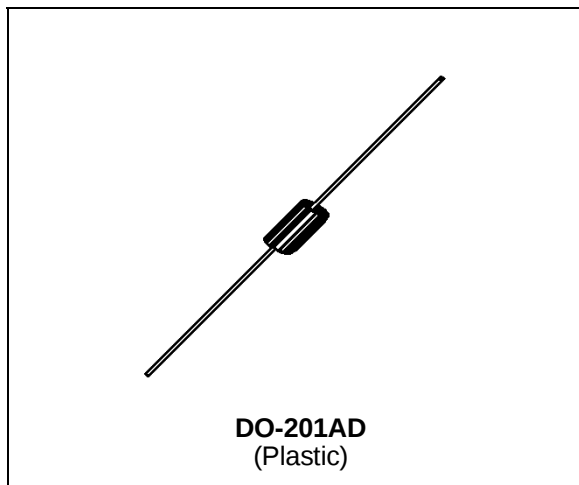
- LOW FORWARD VOLTAGE DROP
- HIGH SURGE CURRENT CAPABILITY

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 diode very attractive components for many demanding applications.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{FRM}	Repetitive peak forward current	$t_p < 20\mu s$	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 4mn from case		230	$^\circ C$

Symbol	Parameter	PFR					Unit
		850	851	852	854	856	
V_{RRM}	Repetitive peak revrse voltage	50	100	200	400	600	V
V_{RSM}	Non repetitive peak reverse voltage	75	150	250	450	650	V

PFR850 -> 856

THERMAL RESISTANCE

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

* On infinite heatsink with 10mm lead length.

STATIC ELECTRICAL CHARACTERISTICS

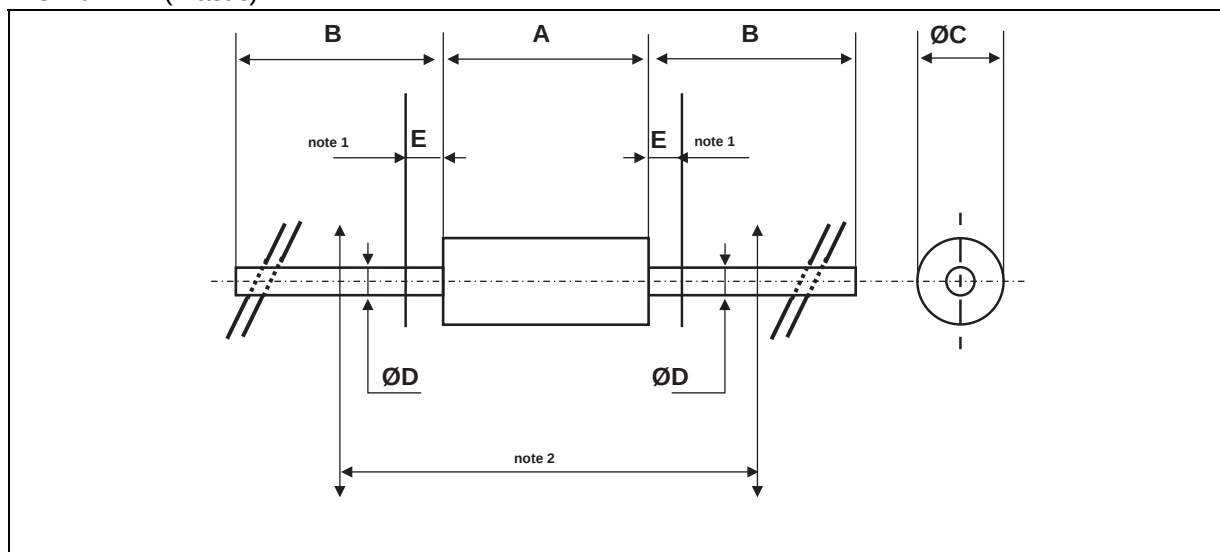
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$			10	μA
	$T_j = 100^\circ\text{C}$				250	
V_F	$T_j = 25^\circ\text{C}$	$I_F = 3\text{A}$			1.25	V

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$	PRF 850→854			150	ns
	$V_R = 30\text{V}$	$di_F/dt = -25\text{A}/\mu\text{s}$	PRF 856			200	
I_{RM}	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$				2	A
	$V_R = 30\text{V}$	$di_F/dt = -25\text{A}/\mu\text{s}$					

PACKAGE MECHANICAL DATA

DO-201AD (Plastic)



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A		9.50		0.374	1 - The lead diameter Ø 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		
Ø C		5.30		0.209	
Ø D		1.30		0.051	
E		1.25		0.049	

- **Marking:** type number, white band indicate cathode
- Cooling method: by convection (method A)
- Weight: 1g
- Date code

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1998 STMicroelectronics - Printed in Italy - All rights reserved.

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Mexico - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.