

FAST RECOVERY RECTIFIER DIODES

PRELIMINARY DATASHEET

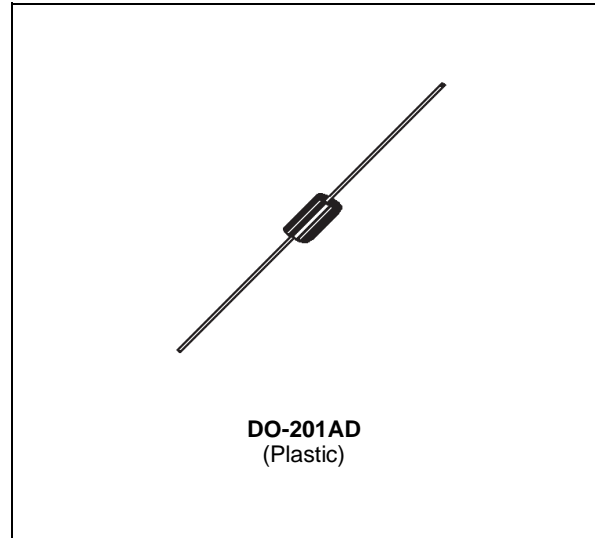
- LOW FORWARD VOLTAGE DROP
- HIGH SURGE CURRENT CAPABILITY

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.

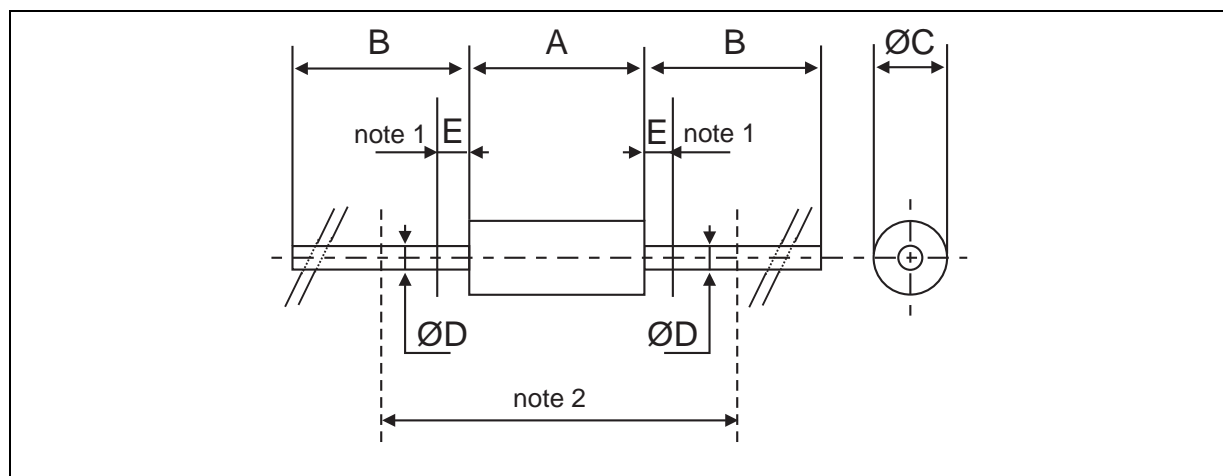
ELECTRICAL CHARACTERISTICS

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

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics 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 SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1996 SGS-THOMSON Microelectronics - Printed in Italy - All rights reserved.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

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