SGS-THOMSON MICROELECTRONICS

PFR 850S → 856S

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.

DO-201AD
(Plastic)

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*	$T_a = 90°C$ $\delta = 0.5$	3	A
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	100	A
P_{tot}	Power Dissipation*	$T_a = 90°C$	3.5	W
T_{stg} T_j	Storage and Junction Temperature Range		- 40 to + 175 - 40 to + 175	°C
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from case		230	°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	°C/W

* On infinite heatsink with 10mm lead length.

ELECTRICAL CHARACTERISTICS

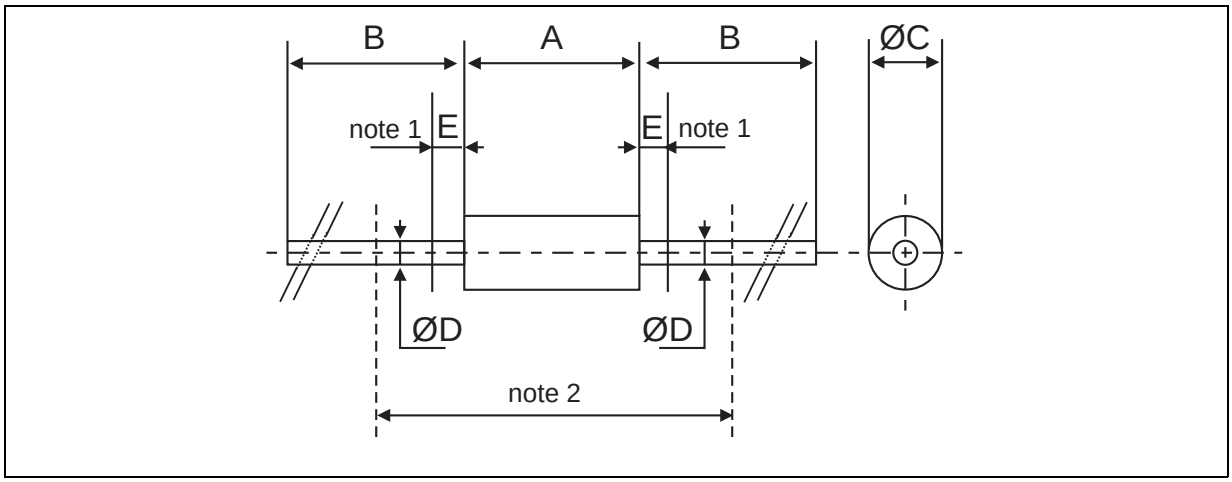
STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R	T_j = 25°C	$V_R = V_{RRM}$			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	PRF 850S →854S			150	ns
	V_R= 30V	di_F/dt = - 25A/µs	PRF 856S			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 ∅ D is not controlled over zone E 2 - The minimum axial lengh within which the device may be placed with its leads bent at right angles is 0.59"(15 mm)
B	25.40		1.000		
∅ C		5.30		0.209	
∅ D		1.30		0.051	
E		1.25		0.049	

Weight : 1 g
Marking : Type number
White band indicates cathode
cooling method : by convertion (method A)
Date code