

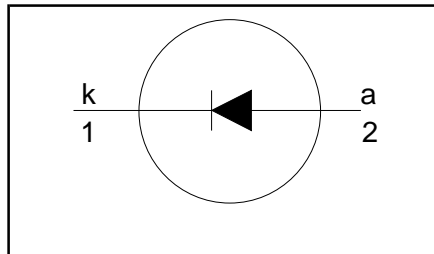
Damper diode fast, high-voltage

BY359F-1500, BY359F-1500S

FEATURES

- Low forward volt drop
- Fast switching
- Soft recovery characteristic
- High thermal cycling performance
- Isolated mounting tab

SYMBOL



QUICK REFERENCE DATA

$V_R = 1500\text{ V}$
$V_F \leq 1.8\text{ V} / 2\text{ V}$
$I_{F(RMS)} = 15.7\text{ A}$
$I_{FSM} \leq 60\text{ A}$
$t_{rr} \leq 600\text{ ns} / 350\text{ ns}$

GENERAL DESCRIPTION

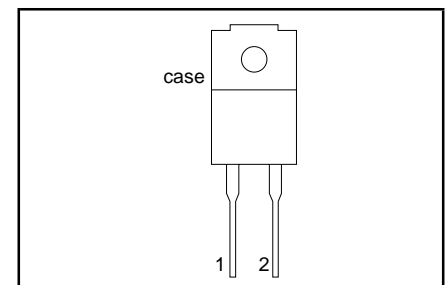
Glass-passivated double diffused rectifier diode featuring low forward voltage drop, fast reverse recovery and soft recovery characteristic. The device is intended for use in TV receivers and PC monitors.

The BY359F series is supplied in the conventional leaded SOD100 package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode
tab	isolated

SOD100



LIMITING VALUES

Limiting values in accordance with the Absolute Maximum System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RSM}	Peak non-repetitive reverse voltage		-	1500	V
V_{RRM}	Peak repetitive reverse voltage		-	1500	V
V_{RWM}	Crest working reverse voltage		-	1300	V
$I_{F(peak)}$	Peak forward current	16-32kHz TV 31-70kHz monitor	-	10	A
$I_{F(RMS)}$	RMS forward current	BY359F-1500 BY359F-1500S	-	7	A
I_{FRM}	Peak repetitive forward current	sinusoidal; $a = 1.57$	-	15.7	A
I_{FSM}	Peak non-repetitive forward current	$t = 10\text{ ms}$ $t = 8.3\text{ ms}$ sinusoidal; $T_j = 150\text{ °C}$ prior to surge; with reapplied $V_{RWM(max)}$	-	60	A
T_{stg}	Storage temperature		-40	150	°C
T_j	Operating junction temperature		-	150	°C

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-hs}$	Thermal resistance junction to heatsink	with heatsink compound	-	-	4.8	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	without heatsink compound in free air.	-	55	5.9	K/W

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STATIC CHARACTERISTICS

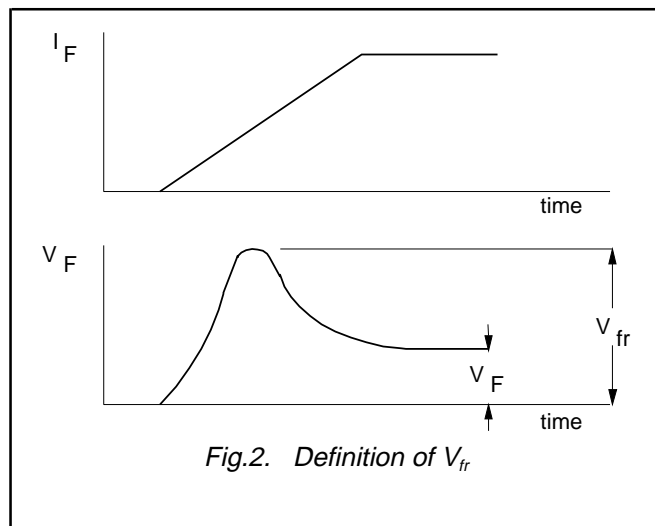
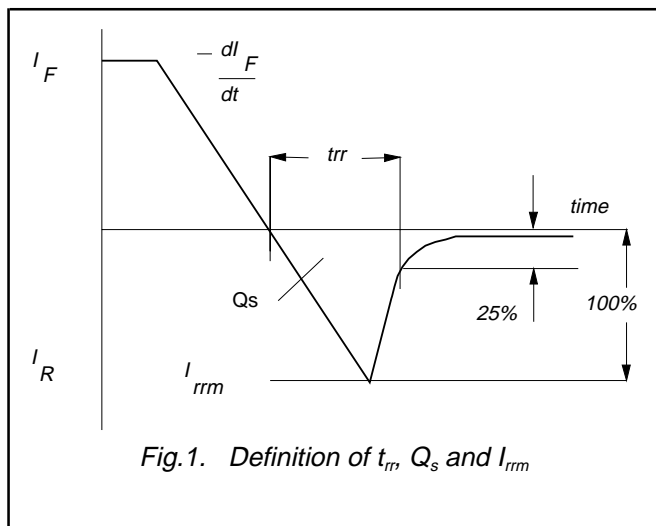
$T_j = 25\text{ }^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	BY359F-1500		BY359F-1500S		UNIT
			TYP.	MAX.	TYP.	MAX.	
V_F	Forward voltage	$I_F = 20\text{ A}$	1.3	1.8	1.5	2.0	V
I_R	Reverse current	$I_F = 10\text{ A}; T_j = 150\text{ }^\circ\text{C}$	1.00	1.5	1.25	1.75	V
		$V_R = 1300\text{ V}$	10	100	10	100	μA
		$V_R = 1300\text{ V}; T_j = 100\text{ }^\circ\text{C}$	50	300	100	600	μA

DYNAMIC CHARACTERISTICS

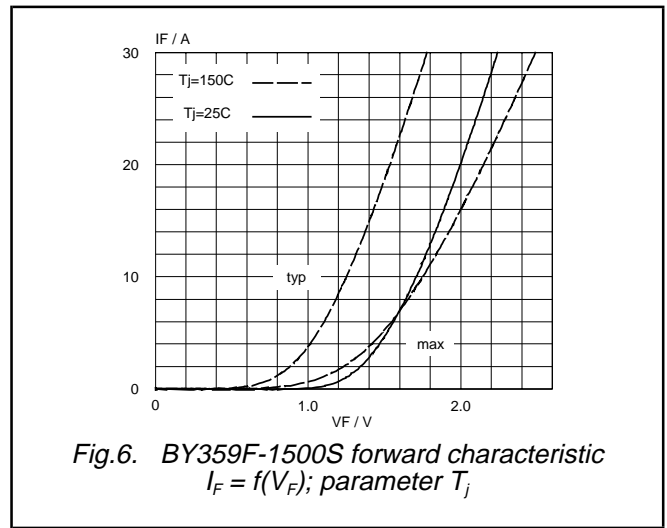
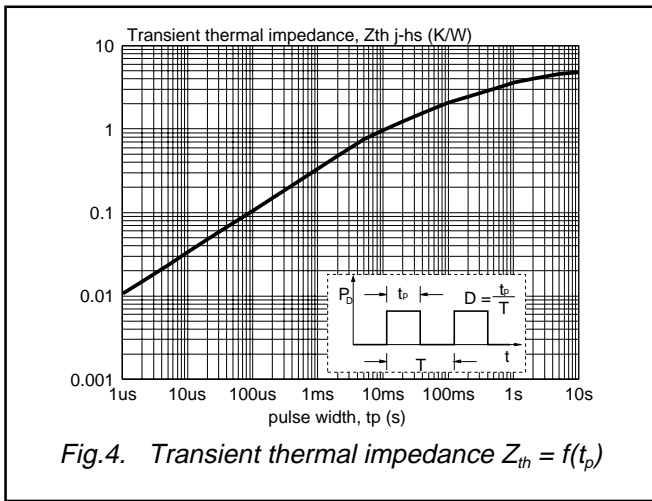
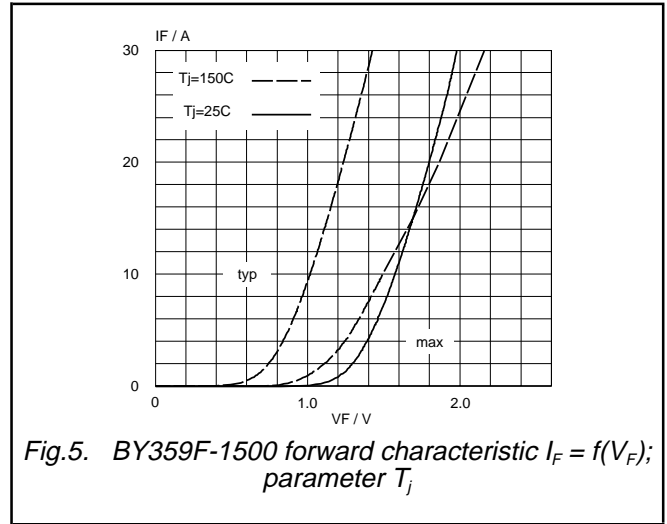
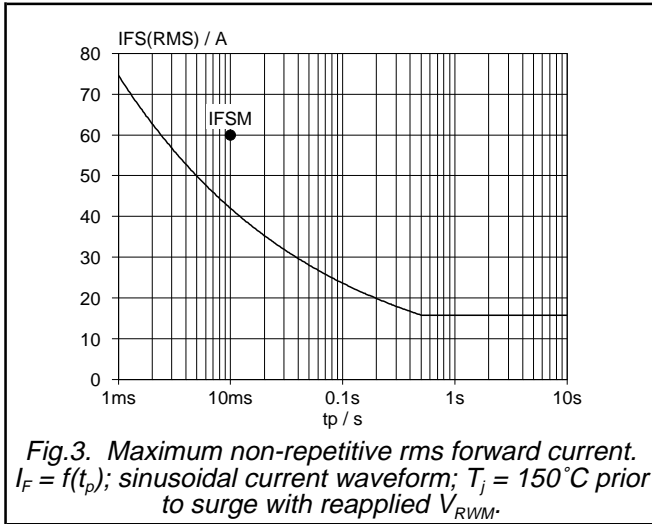
$T_j = 25\text{ }^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	BY359F-1500		BY359F-1500S		UNIT
			TYP.	MAX.	TYP.	MAX.	
t_{rr}	Reverse recovery time	$I_F = 2\text{ A}; V_R \geq 30\text{ V}; -di_F/dt = 20\text{ A}/\mu\text{s}$	0.47	0.60	0.28	0.35	μs
Q_s	Reverse recovery charge		1.6	2.0	0.70	0.95	μC
V_{fr}	Peak forward recovery voltage	$I_F = 10\text{ A}; di_F/dt = 30\text{ A}/\mu\text{s}$	11.0	-	17.0	-	V



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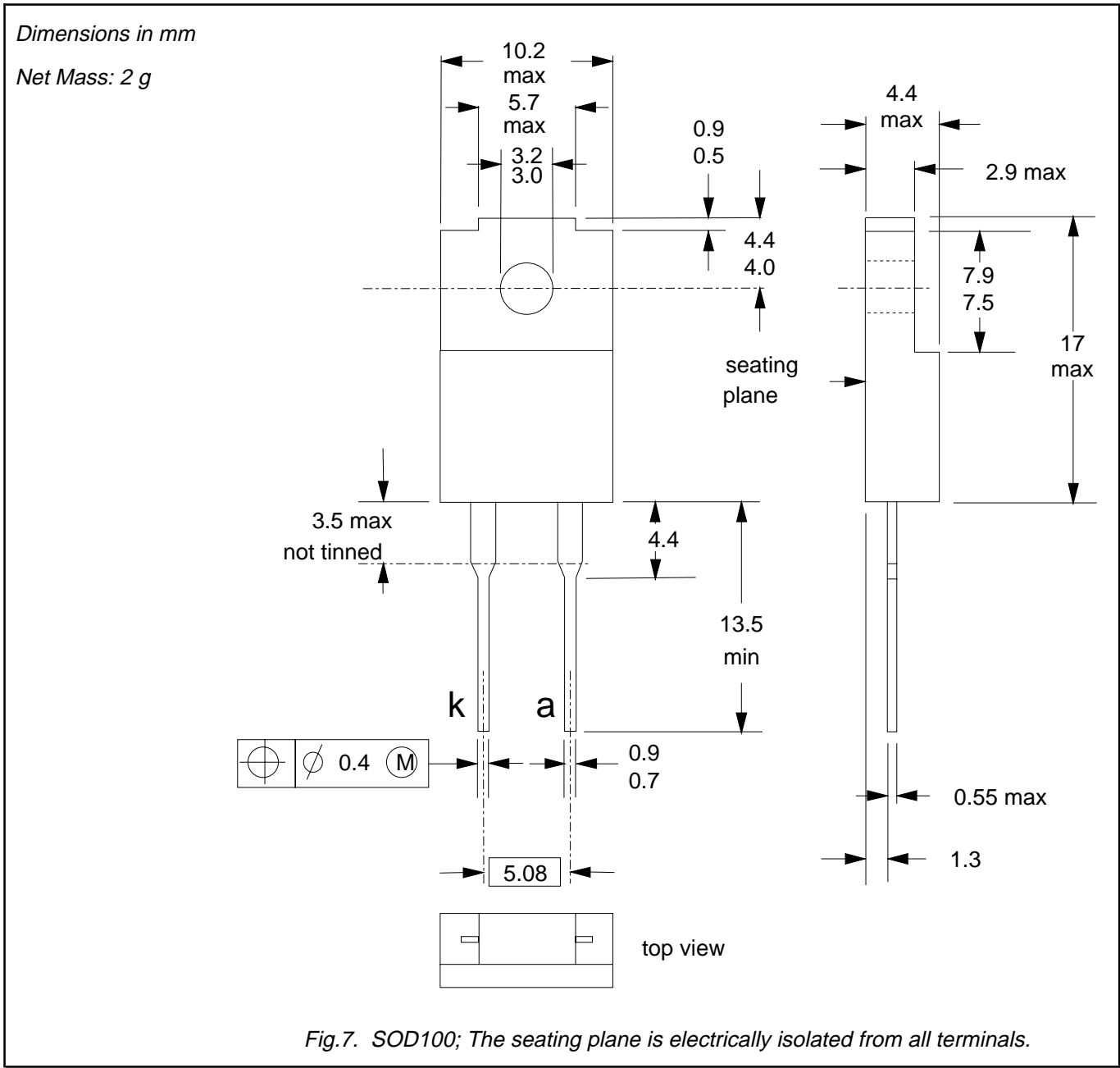
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MECHANICAL DATA



Notes

1. Refer to mounting instructions for F-pack envelopes.
2. Epoxy meets UL94 V0 at 1/8".

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DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values are given in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of this specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	
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