

Damper diode fast, high-voltage

BY329X-1700S

GENERAL DESCRIPTION

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

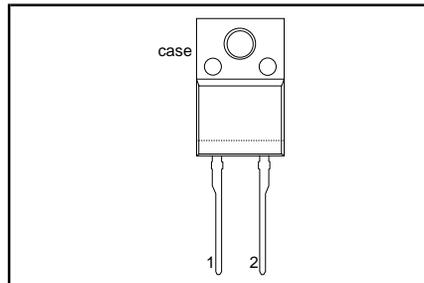
QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{RRM}	Repetitive peak reverse voltage	1700	V
V_F	Forward voltage	1.5	V
$I_{F(RMS)}$	Working peak forward current	10	A
I_{FSM}	Repetitive peak forward current	60	A
t_{rr}	Reverse recovery time	0.17	μ s

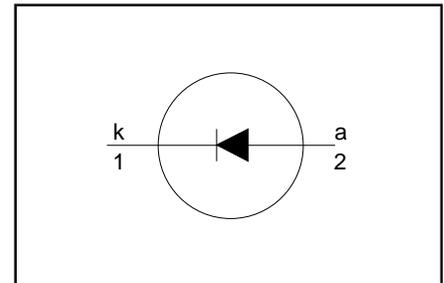
PINNING - SOD113

PIN	DESCRIPTION
1	cathode
2	anode
case	isolated

PIN CONFIGURATION



SYMBOL



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RSM}	Non repetitive peak reverse voltage		-	1700	V
V_{RRM}	Repetitive peak reverse voltage		-	1700	V
V_{RWM}	Crest working reverse voltage		-	1300	V
I_{FWM}	Working peak forward current	$f = 16$ kHz	-	6	A
		$f = 56$ kHz	-	4	A
I_{FRM}	Repetitive peak forward current	$t = 25$ μ s; $\delta = 0.5$; $T_{hs} \leq 91$ °C	-	14	A
$I_{F(RMS)}$	RMS forward current		-	10	A
I_{FSM}	Non repetitive peak forward current	$t = 10$ ms sinusoidal; $T_j = 150$ °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

ISOLATION LIMITING VALUE & CHARACTERISTIC

$T_{hs} = 25$ °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{isol}	R.M.S. isolation voltage from both terminals to external heatsink	$f = 50-60$ Hz; sinusoidal waveform; R.H. $\leq 65\%$; clean and dustfree	-		2500	V
C_{isol}	Capacitance from both terminals to external heatsink	$f = 1$ MHz	-	10	-	pF

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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

STATIC CHARACTERISTICS

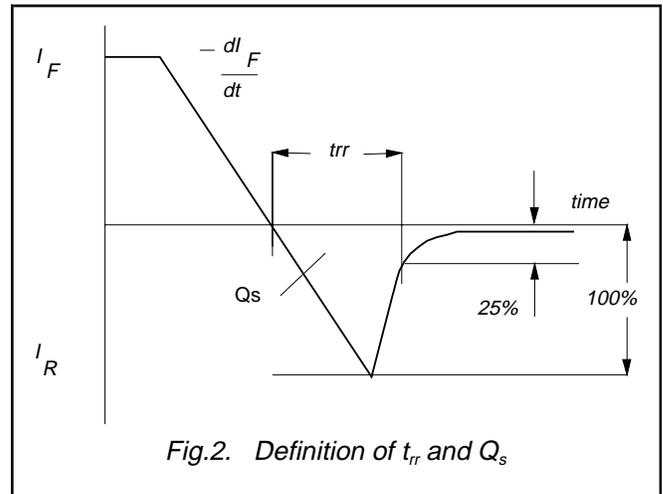
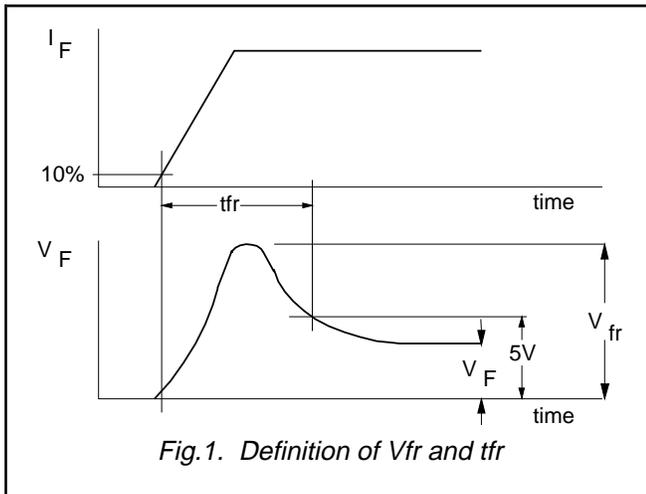
$T_j = 25\text{ }^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage	$I_F = 6.5\text{ A}$	-	1.35	1.65	V
I_R	Reverse current	$I_F = 6.5\text{ A}; T_j = 125\text{ }^\circ\text{C}$	-	1.2	1.5	V
		$V_R = V_{RWMmax}$	-	-	250	μA
		$V_R = V_{RWMmax}; T_j = 125\text{ }^\circ\text{C}$	-	-	1.0	mA

DYNAMIC CHARACTERISTICS

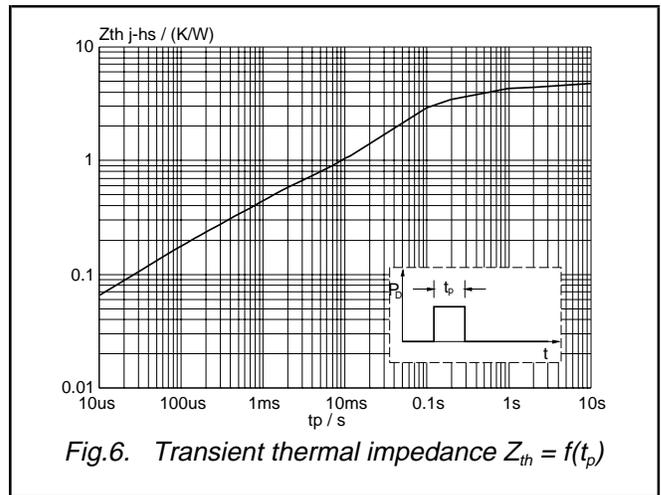
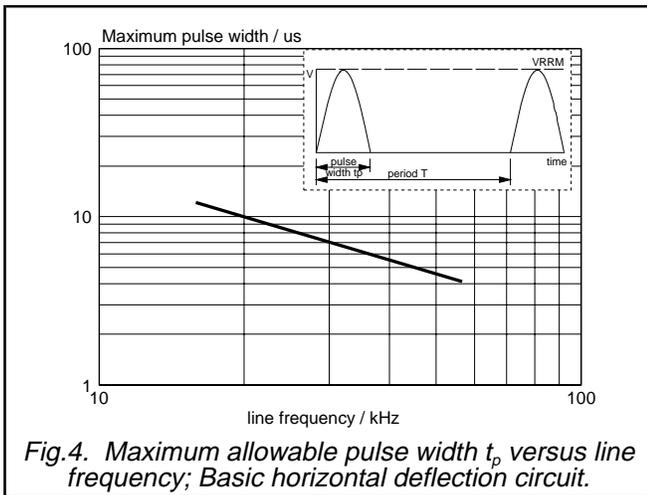
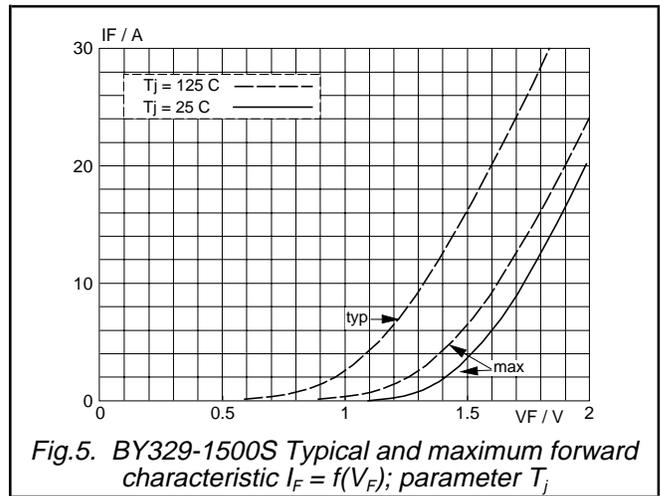
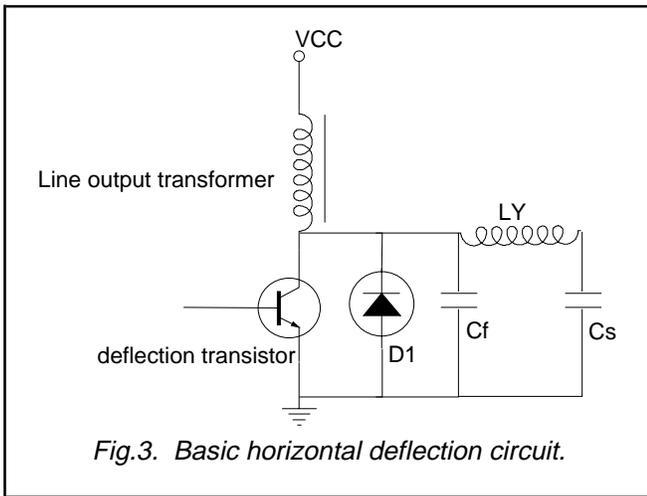
$T_j = 25\text{ }^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{fr}	Forward recovery voltage	$I_F = 6.5$; $di_F/dt = 50\text{ A}/\mu\text{s}$	-	30	40	V
t_{fr}	Forward recovery time	$I_F = 6.5\text{ A}; di_F/dt = 50\text{ A}/\mu\text{s}; V_F = 5\text{ V}$	-	300	320	ns
t_{rr}	Reverse recovery time	$I_F = 1\text{ A}; -di_F/dt = 50\text{ A}/\mu\text{s}; V_R \geq 30\text{ V}$	-	130	170	ns
Q_s	Reverse recovery charge	$I_F = 2\text{ A}; -di_F/dt = 20\text{ A}/\mu\text{s}; V_R \geq 30\text{ V}$	-	0.7	1.0	μC



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MECHANICAL DATA

Dimensions in mm

Net Mass: 2 g

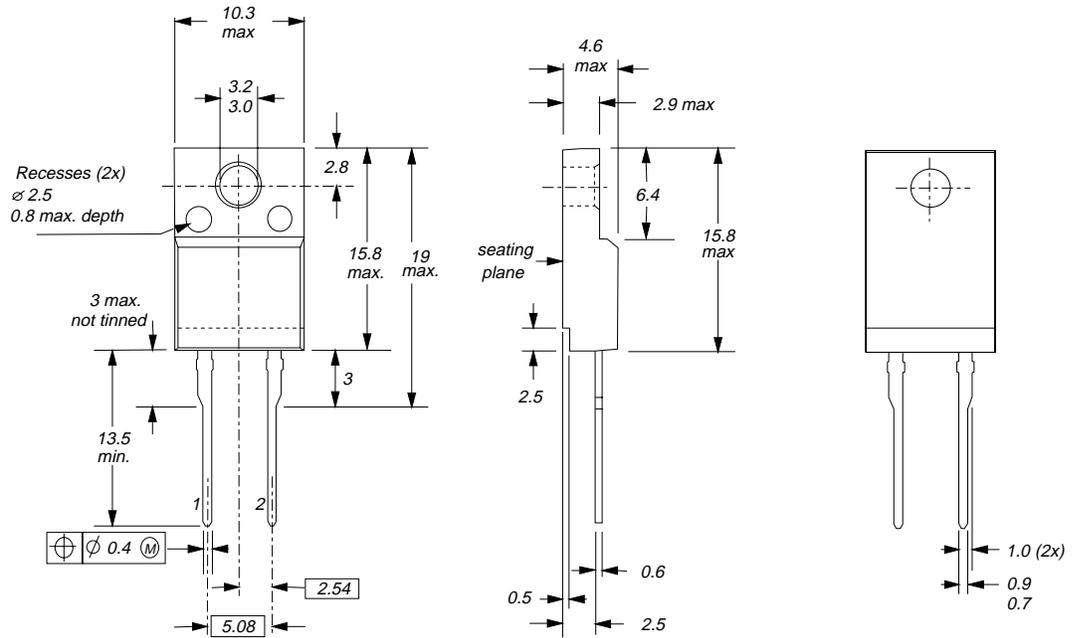


Fig.7. SOD113; The seating plane is electrically isolated from all terminals.

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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