Damper diode fast, high-voltage

BY329-1500 BY329-1500S

GENERAL DESCRIPTION

Glass-passivated double diffused rectifier diode in a 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.

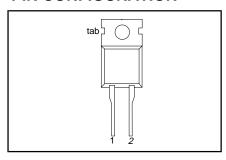
QUICK REFERENCE DATA

| SYMBOL | PARAMETER | MAX. | MAX. | UNIT |
|---------------------|-------------------------------------|-------|--------|------|
| | BY329 | -1500 | -1500S | |
| V_{RRM} | Repetitive peak reverse voltage | 1500 | 1500 | V |
| V _F | Forward voltage | 1.35 | 1.5 | V |
| I _{F(RMS)} | RMS forward current | 11 | 11 | Α |
| I _{FSM} | Non repetitive peak forward current | 75 | 75 | Α |
| t _{rr} | Reverse recovery time | 0.23 | 0.16 | μs |

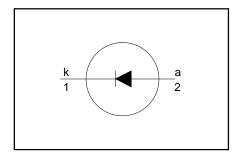
PINNING - TO220AC

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | cathode (k) |
| 2 | anode (a) |
| tab | cathode (k) |
| | |
| | |

PIN CONFIGURATION



SYMBOL



LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | | UNIT |
|---------------------------------|--|--|----------|------------------------|-------------------------|----------|
| V_{RSM} | Non repetitive peak reverse voltage | | - | 15 | 00 | ٧ |
| V_{RRM} | Repetitive peak reverse voltage | | - | 15 | 00 | V |
| V_{RWM} | Crest working reverse voltage | | - | 13 | 00 | V |
| I _{F(peak)} | Working peak forward current | f = 16 kHz f = 56 kHz | - - | -1500 6 - | -1500S - 4 | A A |
| I _{FRM} | Repetitive peak forward current | $t = 25 \mu s; \delta = 0.5;$ $T_{mb} \le 123 °C$ | - | | 4 | Α |
| I _{F(RMS)} | RMS forward current | | - | <u> 1</u> | | A |
| I _{FSM} | Non repetitive peak forward current | t = 10 ms sinusoidal; $T_i = 150 \text{ °C prior to}$ surge; with reapplied $V_{\text{RWM(max)}}$ | - | 7 | 5 | А |
| ${f T}_{ m stg} \ {f T}_{ m j}$ | Storage temperature Operating junction temperature | Rvvw(max) | -40 - | | 50 50 | °C O° |

THERMAL RESISTANCES

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|----------------------|--|-------------|------|------|------|------|
| R _{th j-mb} | Thermal resistance junction to | | - | - | 2.0 | K/W |
| R _{th j-a} | mounting base Thermal resistance junction to ambient | in free air | - | 60 | - | K/W |

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STATIC CHARACTERISTICS

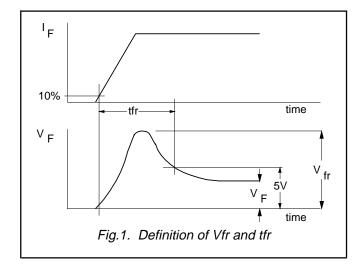
 $T_i = 25$ °C unless otherwise stated

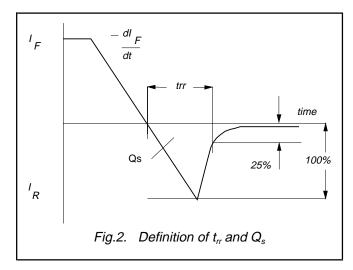
| SYMBOL | PARAMETER | CONDITIONS | TY | Έ. | M | AX. | UNIT |
|----------------|-----------------|---|-------------|------------|--------------|------------|----------|
| | | | 1500 | 1500S | 1500 | 1500S | |
| V _F | Forward voltage | I _F = 6.5 A I _F = 6.5 A; T _i = 125 °C | 1.1 1.05 | 1.3 1.2 | 1.45 1.35 | 1.6 1.5 | V |
| I _R | Reverse current | $V_R = 1300 \text{ V}$ $V_R = 1300 \text{ V}$ $V_R = 1300 \text{ V}$; $T_i = 125 \text{ °C}$ | - | 250 1 | - | 250 1 | μA mA |

DYNAMIC CHARACTERISTICS

T_i = 25 °C unless otherwise stated

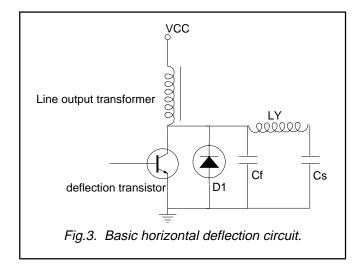
| SYMBOL | PARAMETER | CONDITIONS | T | /P. | M | AX. | UNIT |
|--|---|--|------------------|------------------|------------------|-------------------|---------------|
| | | | 1500 | 1500S | 1500 | 1500S | |
| t _{rr} | Reverse recovery time | $I_F = 1 \text{ A}; V_R \ge 30 \text{ V}; \\ dI_F/dt = 50\text{A}/\mu\text{s}$ | 0.18 | 0.13 | 0.23 | 0.16 | μs |
| $egin{array}{c} Q_s \ V_{fr} \ t_{fr} \end{array}$ | Reverse recovery charge Peak forward recovery voltage Forward recovery time | $I_F = 2 \text{ A}; -dI_F/dt = 20 \text{ A}/\mu\text{s}$ $I_F = 6.5\text{A}; dI_F/dt = 50\text{A}/\mu\text{s}$ $I_F = 6.5\text{A}; dI_F/dt = 50\text{A}/\mu\text{s}$ | 1.6 17 210 | 0.7 23 220 | 2.0 30 300 | 0.95 40 320 | μC V ns |

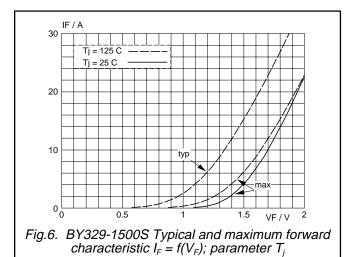


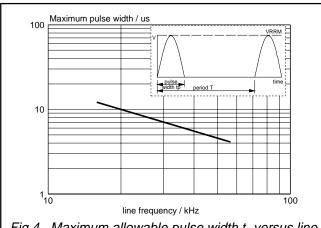


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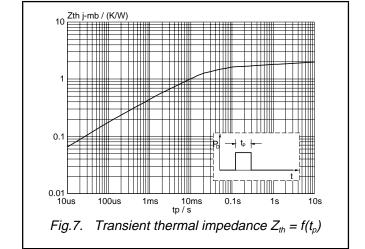
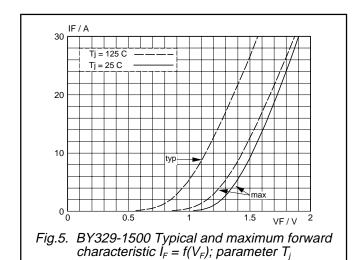


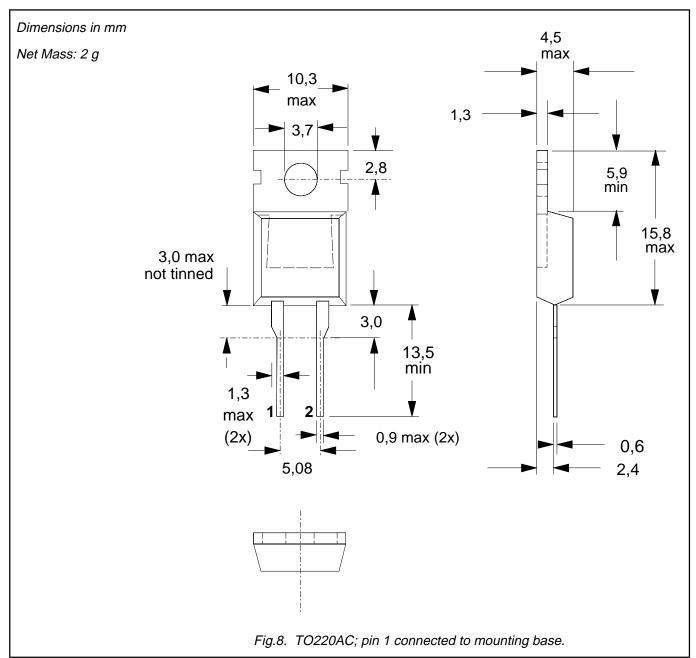
Fig.4. Maximum allowable pulse width t_p versus line frequency; Basic horizontal deflection circuit.



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MECHANICAL DATA



- Notes
 1. Refer to mounting instructions for TO220 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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