

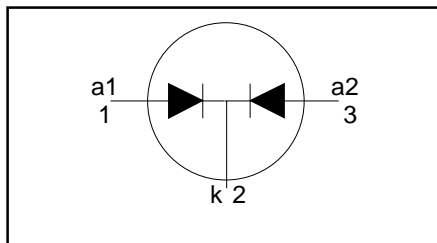
**Rectifier diodes
Schottky barrier**

PBYR30100WT series

FEATURES

- Low forward volt drop
- Fast switching
- Reverse surge capability
- High thermal cycling performance
- Low thermal resistance

SYMBOL



QUICK REFERENCE DATA

| |
|--|
| $V_R = 60\text{ V} / 80\text{ V} / 100\text{ V}$ |
| $I_{O(AV)} = 30\text{ A}$ |
| $V_F \leq 0.7\text{ V}$ |

GENERAL DESCRIPTION

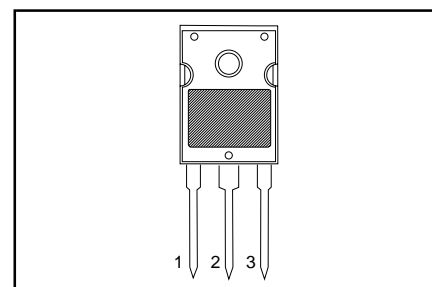
Schottky rectifier diodes in a plastic envelope. Intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR30100WT series is supplied in the conventional leaded SOT429 (TO247) package.

PINNING

| PIN | DESCRIPTION |
|---------------|-------------|
| 1 | anode 1 |
| 2 | cathode |
| 3 | anode 2 |
| mounting base | cathode |

SOT429 (TO247)



LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | | | UNIT |
|-------------|---|--|------|------|------|-------|------------------|
| | | | | 60WT | 80WT | 100WT | |
| V_{RRM} | Peak repetitive reverse voltage | PBYR30 $T_{mb} \leq 139\text{ }^\circ\text{C}$ square wave; $\delta = 0.5$; $T_{mb} \leq 124\text{ }^\circ\text{C}$ square wave; $\delta = 0.5$; $T_{mb} \leq 124\text{ }^\circ\text{C}$ $t = 10\text{ ms}$ $t = 8.3\text{ ms}$ sinusoidal; $T_j = 125\text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RRM(max)}$ pulse width and repetition rate limited by T_{jmax} | - | 60 | 80 | 100 | V |
| V_{RWM} | Working peak reverse voltage | | - | 60 | 80 | 100 | V |
| V_R | Continuous reverse voltage | | - | 60 | 80 | 100 | V |
| $I_{O(AV)}$ | Average rectified output current (both diodes conducting) | | - | 30 | | | A |
| I_{FRM} | Repetitive peak forward current per diode | | - | 30 | | | A |
| I_{FSM} | Non-repetitive peak forward current per diode | | - | 180 | | | A |
| | | | - | 200 | | | A |
| I_{RRM} | Peak repetitive reverse surge current per diode | | - | 1 | | | A |
| T_j | Operating junction temperature | | - | 150 | | | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | | - 65 | 175 | | | $^\circ\text{C}$ |

THERMAL RESISTANCES

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|----------------|--|-------------|------|------|------|------|
| $R_{th\ j-mb}$ | Thermal resistance junction to mounting base | per diode | - | - | 1.4 | K/W |
| | | both diodes | - | - | 1 | K/W |
| $R_{th\ j-a}$ | Thermal resistance junction to ambient | in free air | - | 45 | - | K/W |

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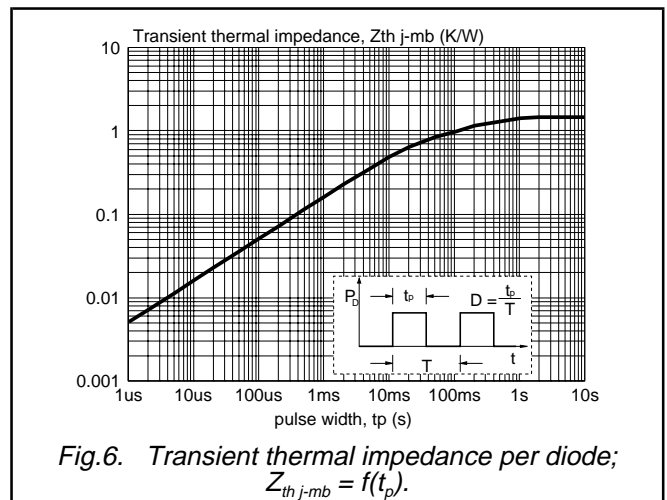
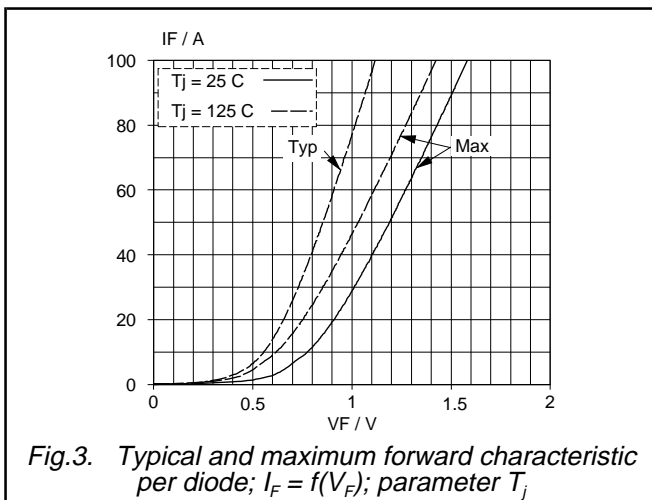
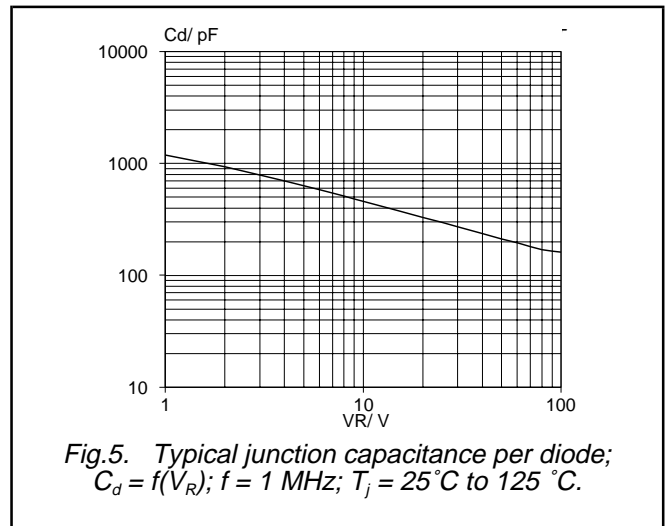
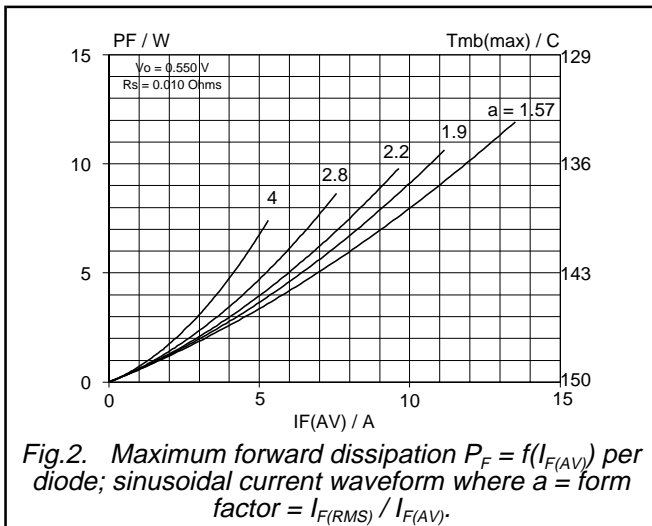
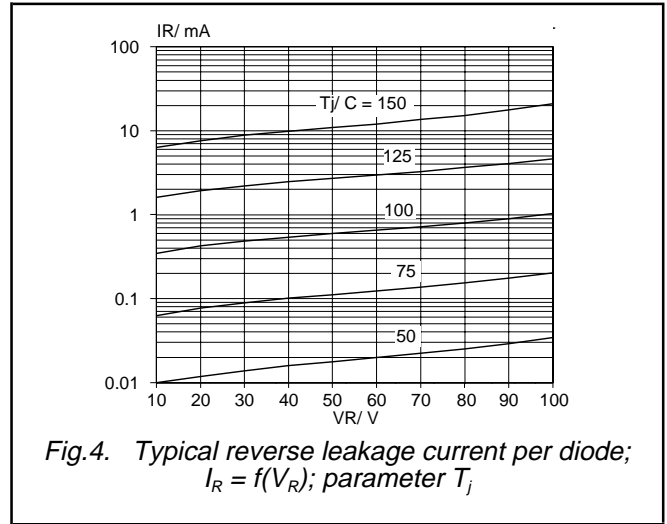
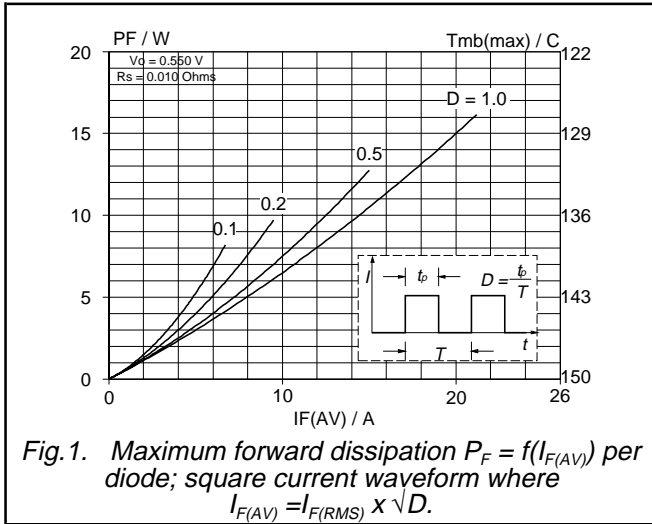
PBYR30100WT series

ELECTRICAL CHARACTERISTICS
 characteristics are per diode at $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------|----------------------|--|------|------|------|---------------|
| V_F | Forward voltage | $I_F = 15\text{ A}; T_j = 125\text{ }^\circ\text{C}$ | - | 0.61 | 0.7 | V |
| | | $I_F = 30\text{ A}; T_j = 125\text{ }^\circ\text{C}$ | - | 0.74 | 0.85 | V |
| | | $I_F = 15\text{ A}$ | - | 0.77 | 0.85 | V |
| I_R | Reverse current | $V_R = V_{RWM}$ | - | 5 | 150 | μA |
| | | $V_R = V_{RWM}; T_j = 125\text{ }^\circ\text{C}$ | - | 5 | 15 | mA |
| C_d | Junction capacitance | $V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25\text{ }^\circ\text{C to } 125\text{ }^\circ\text{C}$ | - | 600 | - | pF |

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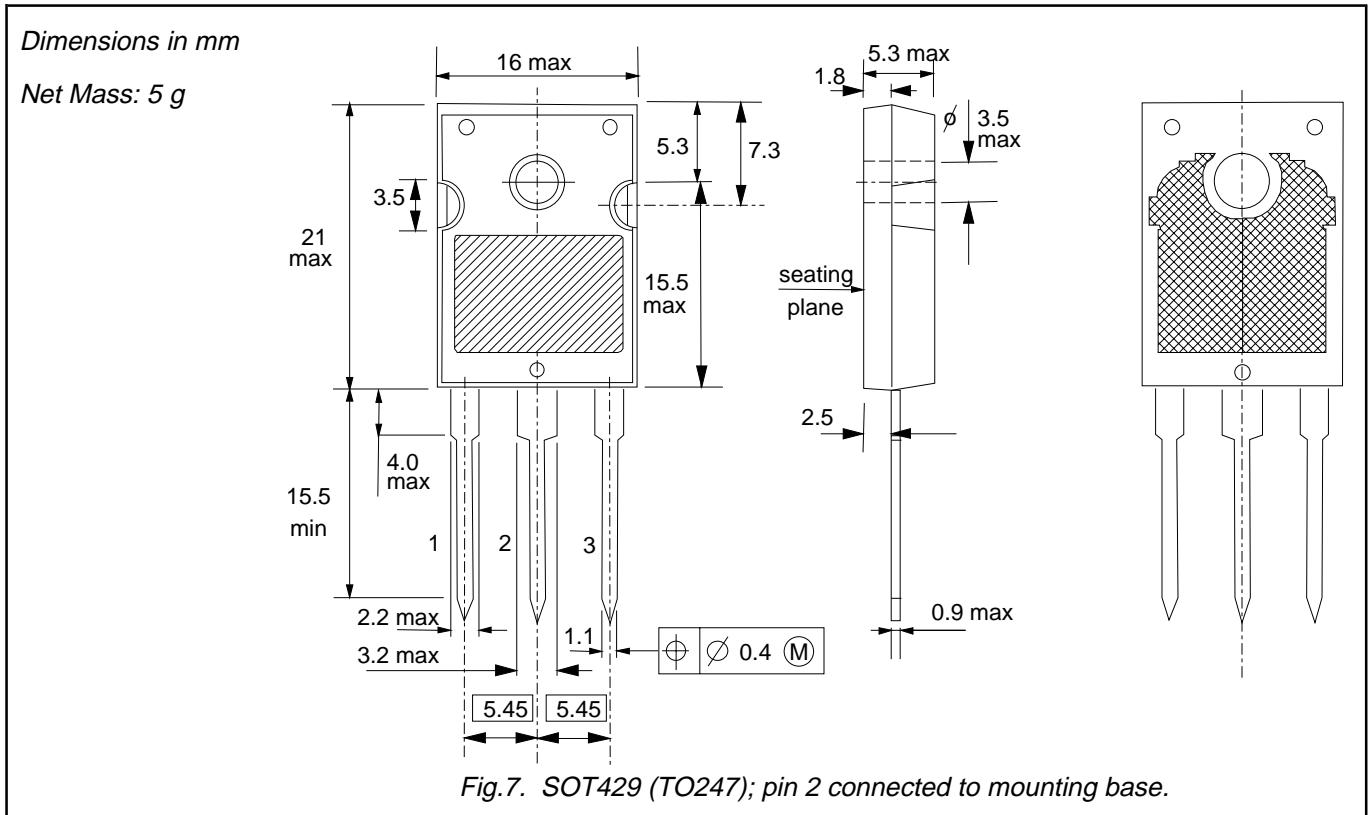
PBYR30100WT series



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MECHANICAL DATA



Notes

1. Refer to mounting instructions for SOT429 envelope.
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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