

# Schottky Dual Diode

## **PBYR225CT**

25V / 2A

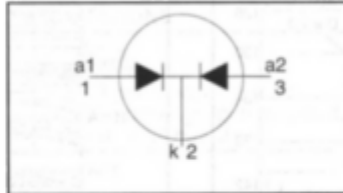
# DATASHEET

OEM – Philips

Source: Philips Databook 1999

**Rectifier diodes  
Schottky barrier**
**PBYR225CT series**
**FEATURES**

- Low forward volt drop
- Fast switching
- Reverse surge capability
- High thermal cycling performance
- low profile surface mounting package

**SYMBOL**

**QUICK REFERENCE DATA**

$$V_R = 20 \text{ V} / 25 \text{ V}$$

$$I_{O(AV)} = 2 \text{ A}$$

$$V_F \leq 0.33 \text{ V}$$

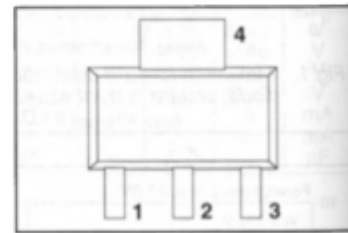
**GENERAL DESCRIPTION**

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

The PBYR225CT series is supplied in the surface mounting SOT223 package.

**PINNING**

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | anode 1     |
| 2   | cathode     |
| 3   | anode 2     |
| tab | cathode     |

**SOT223**

**LIMITING VALUES**

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

| SYMBOL      | PARAMETER   | CONDITIONS   | MIN. | MAX.  |            | UNIT             |
|-------------|---|--|------|-------|------------|------------------|
|             |   |  |      | PBYR2 | 20CT<br>20 |                  |
| $V_{RRM}$   | Peak repetitive reverse voltage                           |  | -    | 20    | 25         | V                |
| $V_{RWM}$   | Working peak reverse voltage                              |  | -    | 20    | 25         | V                |
| $V_R$       | Continuous reverse voltage                                | $T_{sp} \leq 97 \text{ }^\circ\text{C}$  | -    | 20    | 25         | V                |
| $I_{O(AV)}$ | Average rectified output current (both diodes conducting) | square wave; $\delta = 0.5$ ; $T_{sp} \leq 136 \text{ }^\circ\text{C}$   | -    | 2     |            | A                |
| $I_{FRM}$   | Repetitive peak forward current per diode                 | square wave; $\delta = 0.5$ ; $T_{sp} \leq 136 \text{ }^\circ\text{C}$   | -    | 2     |            | A                |
| $I_{FSM}$   | Non-repetitive peak forward current per diode             | $t = 10 \text{ ms}$  | -    | 6     |            | A                |
|             |   | $t = 8.3 \text{ ms}$   | -    | 6.6   |            | A                |
| $I_{RRM}$   | Peak repetitive reverse surge current per diode           | sinusoidal; $T_j = 125 \text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RRM(max)}$ pulse width and repetition rate limited by $T_{jmax}$ | -    | 1     |            | A                |
| $T_j$       | Operating junction temperature per diode                  |  | -    | 150   |            | $^\circ\text{C}$ |
| $T_{stg}$   | Storage temperature                                       |  | - 40 | 150   |            | $^\circ\text{C}$ |

**THERMAL RESISTANCES**

| SYMBOL         | PARAMETER                                   | CONDITIONS                        | MIN. | TYP. | MAX. | UNIT |
|----------------|---|-----------------------------------|------|------|------|------|
| $R_{th(j-sp)}$ | Thermal resistance junction to solder point | one or both diodes conducting     | -    | -    | 15   | K/W  |
| $R_{th(j-a)}$  | Thermal resistance junction to ambient      | pcb mounted, minimum footprint    | -    | 156  | -    | K/W  |
|                |   | pcb mounted, pad area as in fig:1 | -    | 70   | -    | K/W  |

Rectifier diodes  
Schottky barrier

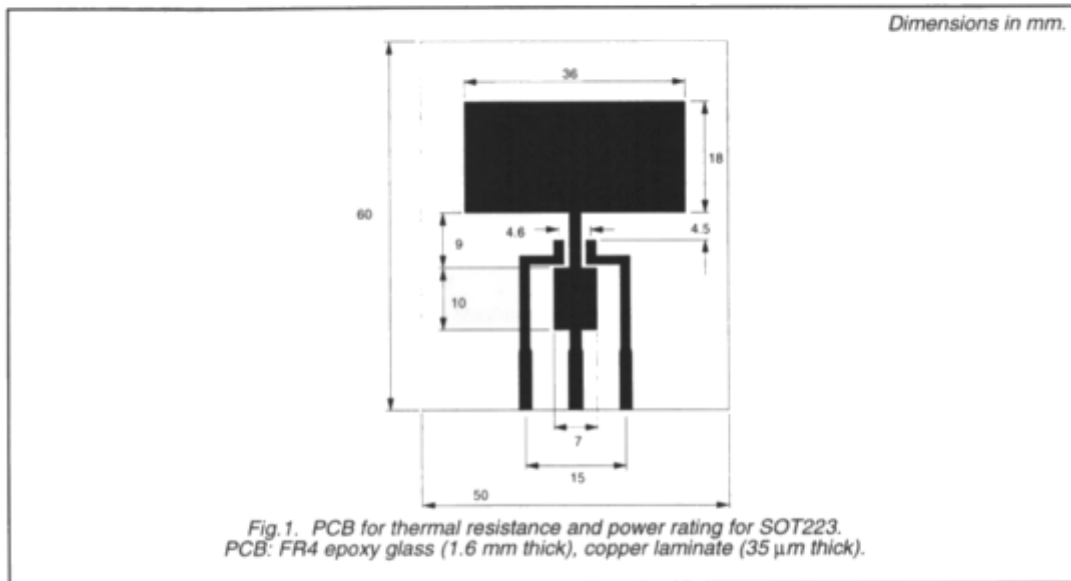
PBYR225CT series

### ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER            | CONDITIONS   | MIN. | TYP. | MAX. | UNIT |
|--------|----------------------|--|------|------|------|------|
| $V_F$  | Forward voltage      | $I_F = 1\text{ A}; T_j = 125^\circ\text{C}$  | -    | 0.28 | 0.33 | V    |
|        |                      | $I_F = 2\text{ A}$   | -    | 0.42 | 0.51 | V    |
| $I_R$  | Reverse current      | $V_R = V_{RWM}$  | -    | 0.05 | 3    | mA   |
|        |                      | $V_R = V_{RWM}; T_j = 100^\circ\text{C}$   | -    | 5    | 10   | mA   |
| $C_j$  | Junction capacitance | $V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25^\circ\text{C to } 125^\circ\text{C}$ | -    | 160  | -    | pF   |

### PRINTED CIRCUIT BOARD



Rectifier diodes  
Schottky barrier

PBYR225CT series

