

# Schottky Dual Diode

## **PBYR325CT**

25V / 3A

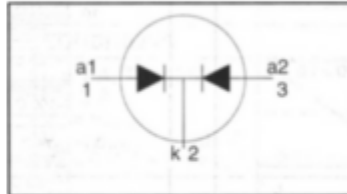
# DATASHEET

OEM – Philips

Source: Philips Databook 1999

**Rectifier diodes  
Schottky barrier**
**PBYR325CTD series**
**FEATURES**

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

**SYMBOL**

**QUICK REFERENCE DATA**

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

$$I_{O(AV)} = 3 \text{ A}$$

$$V_F \leq 0.4 \text{ V}$$

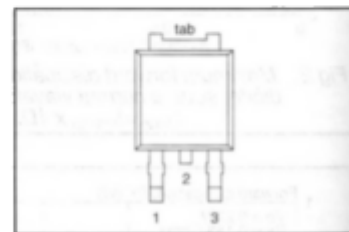
**GENERAL DESCRIPTION**

Dual schottky rectifier diodes intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR325CTD series is supplied in the SOT428 surface mounting package.

**PINNING**

PIN	DESCRIPTION
1	anode 1
2	cathode <sup>1</sup>
3	anode 2
tab	cathode

**SOT428**

**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.		UNIT
				20CTD	25CTD	
$V_{RRM}$	Peak repetitive reverse voltage	<b>PBYR3</b>	-	20	25	V
$V_{RWM}$	Working peak reverse voltage		-	20	25	V
$V_R$	Continuous reverse voltage	$T_{mb} \leq 125 \text{ }^\circ\text{C}$	-	20	25	V
$I_{O(AV)}$	Average rectified output current (both diodes conducting)	square wave; $\delta = 0.5$ ; $T_{mb} \leq 144 \text{ }^\circ\text{C}$	-	3		A
$I_{FRM}$	Repetitive peak forward current per diode	square wave; $\delta = 0.5$ ; $T_{mb} \leq 144 \text{ }^\circ\text{C}$	-	3		A
$I_{FSM}$	Non-repetitive peak forward current per diode	$t = 10 \text{ ms}$ $t = 8.3 \text{ ms}$	-	55		A
		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		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		$^\circ\text{C}$

<sup>1</sup> it is not possible to make connection to pin 2 of the SOT428 package

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#### THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th,j-mb}$	Thermal resistance junction to mounting base	per diode	-	-	5	K/W
$R_{th,j-a}$	Thermal resistance junction to ambient	both diodes pcb mounted, minimum footprint, FR4 board	-	50	4	K/W

#### ELECTRICAL CHARACTERISTICS

All 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	$I_f = 1.5\text{ A}; T_j = 125^\circ\text{C}$	-	0.34	0.4	V
		$I_f = 3\text{ A}; T_j = 125^\circ\text{C}$	-	0.39	0.5	V
		$I_f = 3\text{ A}$	-	0.47	0.6	V
$I_R$	Reverse current	$V_R = V_{RWM}$	-	0.05	2	mA
		$V_R = V_{RWM}; T_j = 100^\circ\text{C}$	-	4	8	mA
$C_d$	Junction capacitance	$V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25^\circ\text{C to } 125^\circ\text{C}$	-	117	-	pF

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