

# Schottky Dual Diode

## **PBYR625CTD**

25V / 6A

# DATASHEET

OEM – Philips

Source: Philips Databook 1999

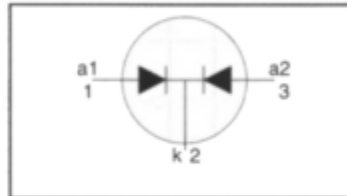
## Rectifier diodes Schottky barrier

## PBYR625CTD series

### FEATURES

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

### SYMBOL



### QUICK REFERENCE DATA

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

$$I_{O(AV)} = 6 \text{ A}$$

$$V_F \leq 0.44 \text{ V}$$

### GENERAL DESCRIPTION

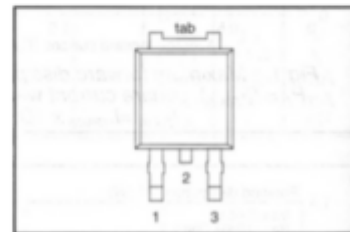
Dual schottky rectifier diodes intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR625CTD 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>PBYR6</b> $T_{mb} \leq 124 \text{ }^\circ\text{C}$	-	20	25	V
$V_{RWM}$	Working peak reverse voltage		-	20	25	V
$V_R$	Continuous reverse voltage		-	20	25	V
$I_{O(AV)}$	Average rectified forward current (both diodes conducting)	square wave; $\delta = 0.5$ ; $T_{mb} \leq 138 \text{ }^\circ\text{C}$	-	6		A
$I_{FRM}$	Repetitive peak forward current per diode	square wave; $\delta = 0.5$ ; $T_{mb} \leq 138 \text{ }^\circ\text{C}$	-	6		A
$I_{FSM}$	Non-repetitive peak forward current per diode	$t = 10 \text{ ms}$	-	65		A
		$t = 8.3 \text{ ms}$	-	70		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		-	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
$R_{th\text{-}j\text{-}mb}$	Thermal resistance junction to mounting base	per diode	-	-	4	K/W
$R_{th\text{-}j\text{-}a}$	Thermal resistance junction to ambient	both diodes pcb mounted, minimum footprint, FR4 board	-	-	3.5	K/W
			-	50	-	K/W

### ELECTRICAL CHARACTERISTICS

All 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	$I_F = 3\text{ A}; T_j = 125\text{ }^\circ\text{C}$ $I_F = 6\text{ A}; T_j = 125\text{ }^\circ\text{C}$	-	0.38	0.44	V
		$I_F = 6\text{ A}$	-	0.50	0.59	V
$I_R$	Reverse current	$V_R = V_{RWM}$ $V_R = V_{RWM}; T_j = 100\text{ }^\circ\text{C}$	-	0.61	0.68	V
			-	0.05	3	mA
$C_d$	Junction capacitance	$V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25\text{ }^\circ\text{C to } 125\text{ }^\circ\text{C}$	-	5	10	mA
			-	160	-	pF

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