

# Schottky Dual Diode

## **PBYR7020WT**

20V / 70A

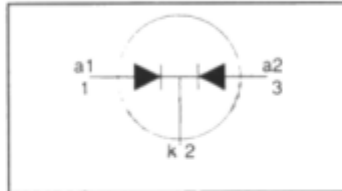
# DATASHEET

OEM – Philips

Source: Philips Databook 1999

**Rectifier diodes  
schottky barrier**
**PBYR7025WT series**
**FEATURES**

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

**SYMBOL**

**QUICK REFERENCE DATA**

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

$$I_{O(AV)} = 70 \text{ A}$$

$$V_F \leq 0.46 \text{ V}$$

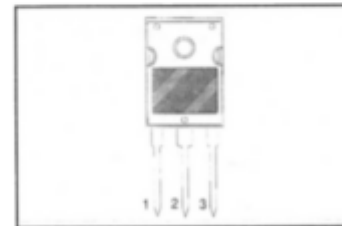
**GENERAL DESCRIPTION**

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 PBYR7025WT series is supplied in the conventional leaded SOT429 (TO247) package.

**PINNING**

PIN	DESCRIPTION
1	anode 1 (a)
2	cathode (k)
3	anode 2 (a)
tab	cathode

**SOT429 (TO247)**

**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.		UNIT
				-20	-25	
$V_{RRM}$	Repetitive peak reverse voltage		-	20	25	V
$V_{RWM}$	Crest working reverse voltage		-	20	25	V
$V_R$	Continuous reverse voltage	$T_{mb} \leq 104 \text{ }^\circ\text{C}$	-	20	25	V
$I_{O(AV)}$	Average output current (both diodes conducting)	square wave; $\delta = 0.5$ ; $T_{mb} \leq 122 \text{ }^\circ\text{C}$	-	70		A
$I_{FRM}$	Repetitive peak forward current per diode	$t = 25 \text{ } \mu\text{s}$ ; $\delta = 0.5$ ; $T_{mb} \leq 122 \text{ }^\circ\text{C}$	-	70		A
$I_{FSM}$	Non-repetitive peak forward current, per diode	$t = 10 \text{ ms}$	-	500		A
		$t = 8.3 \text{ ms}$ sinusoidal $T_j = 125 \text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RRM(max)}$	-	550		A
$I_{RRM}$	Repetitive peak reverse current per diode	$t_p = 2 \text{ } \mu\text{s}$ ; $\delta = 0.001$	-	2		A
$I_{RSM}$	Non-repetitive peak reverse current per diode	$t_p = 100 \text{ } \mu\text{s}$	-	2		A
$T_{stg}$	Storage temperature		-65	175		$^\circ\text{C}$
$T_j$	Operating junction temperature		-	150		$^\circ\text{C}$

**THERMAL RESISTANCES**

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th(j-mb)}$	Thermal resistance junction to mounting base	per diode	-	-	1.0	K/W
$R_{th(j-a)}$	Thermal resistance junction to ambient	both diodes in free air	-	45	0.85	K/W

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 Rectifier diodes  
 schottky barrier
 

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PBYR7025WT series

**STATIC CHARACTERISTICS**

T = 25 °C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_f$	Forward voltage (per diode)	$I_f = 35 \text{ A}; T_j = 125^\circ\text{C}$	-	0.40	0.46	V
		$I_f = 70 \text{ A}; T_j = 125^\circ\text{C}$	-	0.50	0.54	V
$I_R$	Reverse current (per diode)	$I_f = 70 \text{ A}$	-	0.60	0.64	V
		$V_R = V_{RRM}$	-	3.0	15	mA
$C_d$	Junction capacitance (per diode)	$V_R = V_{RRM}; T_j = 100^\circ\text{C}$	-	45	120	mA
		$f = 1\text{MHz}; V_R = 5\text{V}; T_j = 25^\circ\text{C to } 125^\circ\text{C}$	-	1400	-	pF