

Schottky Dual Diode

PBYR7025WT

25V / 70A

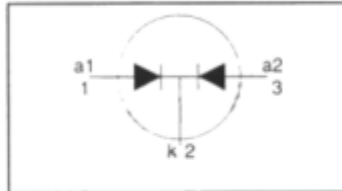
DATASHEET

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

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

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

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

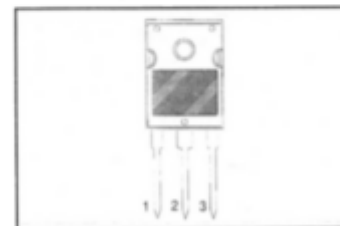
GENERAL DESCRIPTION

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	-	-	0.85	K/W
		in free air	-	45	-	K/W

Rectifier diodes
schottky barrier

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