

Schottky Dual Diode

PBYR4020WT

20V / 40A

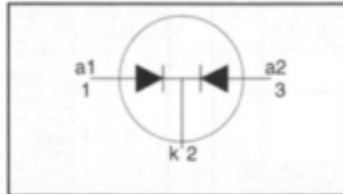
DATASHEET

OEM – Philips

Source: Philips Databook 1999

**Rectifier diodes
schottky barrier**
PBYR4025WT series
FEATURES

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

SYMBOL

QUICK REFERENCE DATA

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

$$I_{O(AV)} = 40 \text{ A}$$

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

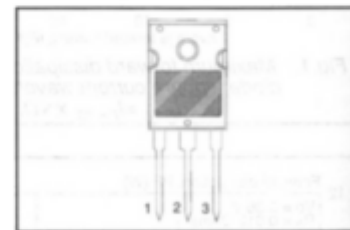
GENERAL DESCRIPTION

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 PBYR4025WT 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
V_{RRM}	Repetitive peak reverse voltage	$T_{mb} \leq 109 \text{ }^\circ\text{C}$	-	-20	-25	V
V_{RWM}	Crest working reverse voltage		-	20	25	V
V_R	Continuous reverse voltage		-	20	25	V
$I_{O(AV)}$	Average output current (both diodes conducting)	square wave; $\delta = 0.5$; $T_{mb} \leq 128 \text{ }^\circ\text{C}$	-	40		A
I_{FRM}	Repetitive peak forward current per diode	$t = 25 \text{ } \mu\text{s}$; $\delta = 0.5$; $T_{mb} \leq 128 \text{ }^\circ\text{C}$	-	40		A
I_{FSM}	Non-repetitive peak forward current, per diode	$t = 10 \text{ ms}$	-	180		A
		$t = 8.3 \text{ ms}$	-	200		A
I_{VRM}	Repetitive peak reverse current per diode	sinusoidal $T_j = 125 \text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RRM(max)}$ $t_p = 2 \text{ } \mu\text{s}$; $\delta = 0.001$	-	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	-	-	1.5	K/W
$R_{th(j-a)}$	Thermal resistance junction to ambient	both diodes in free air	-	45	1.0	K/W

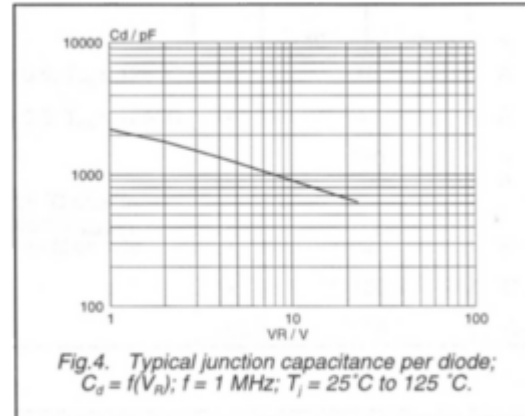
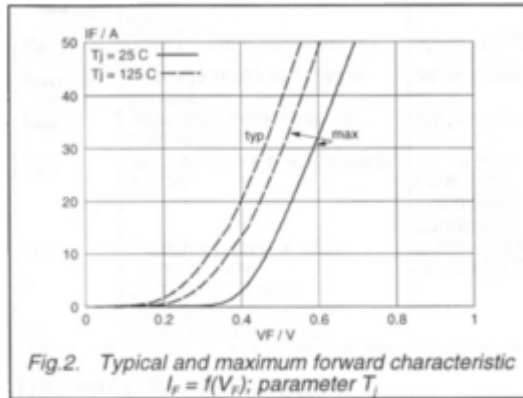
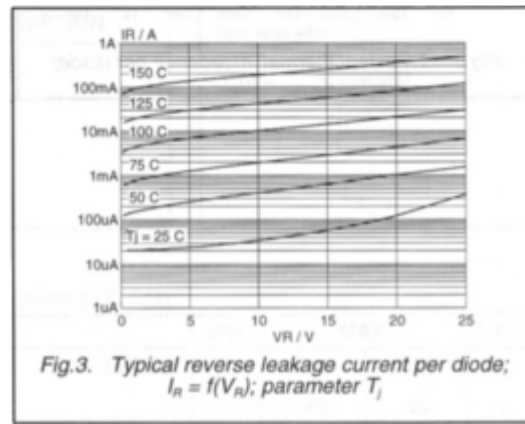
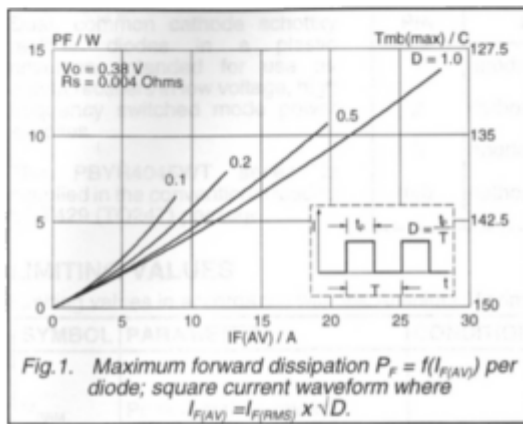
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STATIC CHARACTERISTICS

T = 25 °C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage (per diode)	$I_F = 20 \text{ A}; T_J = 125^\circ\text{C}$	-	0.40	0.46	V
		$I_F = 40 \text{ A}; T_J = 125^\circ\text{C}$	-	0.50	0.54	V
		$I_F = 40 \text{ A}$	-	0.60	0.64	V
I_R	Reverse current (per diode)	$V_R = V_{RRM}$	-	2.0	10	mA
		$V_R = V_{RRM}; T_J = 100^\circ\text{C}$	-	30	80	mA
C_d	Junction capacitance (per diode)	$f = 1\text{MHz}; V_R = 5\text{V}; T_J = 25^\circ\text{C to } 125^\circ\text{C}$	-	900	-	pF



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