

Schottky Dual Diode

PBYR3060WT

60V / 30A

DATASHEET

OEM – Philips

Source: Philips Databook 1999

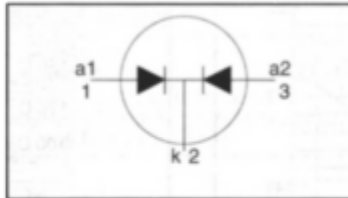
Rectifier diodes Schottky barrier

PBYR30100WT series

FEATURES

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

SYMBOL



QUICK REFERENCE DATA

$$V_R = 60 \text{ V} / 80 \text{ V} / 100 \text{ V}$$

$$I_{O(AV)} = 30 \text{ A}$$

$$V_F \leq 0.7 \text{ V}$$

GENERAL DESCRIPTION

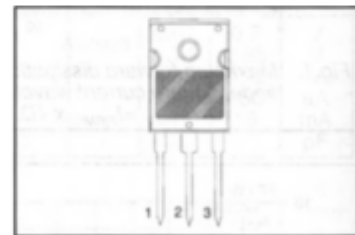
Schottky rectifier diodes in a plastic envelope. Intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR30100WT series is supplied in the conventional leaded SOT429 (TO247) package.

PINNING

PIN	DESCRIPTION
1	anode 1
2	cathode
3	anode 2
mounting base	cathode

SOT429 (TO247)



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.			UNIT
				60WT	80WT	100WT	
V_{RRM}	Peak repetitive reverse voltage	PBYR30 $T_{mb} \leq 139 \text{ }^\circ\text{C}$	-	60	80	100	V
V_{RWM}	Working peak reverse voltage		-	60	80	100	V
V_R	Continuous reverse voltage		-	60	80	100	V
$I_{O(AV)}$	Average rectified output current (both diodes conducting)	square wave; $\delta = 0.5$; $T_{mb} \leq 124 \text{ }^\circ\text{C}$	-	30			A
I_{FRM}	Repetitive peak forward current per diode	square wave; $\delta = 0.5$; $T_{mb} \leq 124 \text{ }^\circ\text{C}$	-	30			A
I_{FSM}	Non-repetitive peak forward current per diode	$t = 10 \text{ ms}$	-	180			A
		$t = 8.3 \text{ ms}$	-	200			A
I_{RRM}	Peak repetitive reverse surge current per diode	sinusoidal; $T_j = 125 \text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{FRM(max)}$ 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			$^\circ\text{C}$

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
R_{th-jmb}	Thermal resistance junction to mounting base	per diode	-	-	1.4	K/W
R_{th-ja}	Thermal resistance junction to ambient	both diodes in free air	-	45	1	K/W

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ELECTRICAL CHARACTERISTICS

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	$I_f = 15\text{ A}; T_j = 125\text{ }^\circ\text{C}$	-	0.61	0.7	V
		$I_f = 30\text{ A}; T_j = 125\text{ }^\circ\text{C}$	-	0.74	0.85	V
I_R	Reverse current	$I_f = 15\text{ A}$	-	0.77	0.85	V
		$V_R = V_{RWM}$	-	5	150	μA
C_d	Junction capacitance	$V_R = V_{RWM}; T_j = 125\text{ }^\circ\text{C}$	-	5	15	mA
		$V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25\text{ }^\circ\text{C to } 125\text{ }^\circ\text{C}$	-	600	-	pF

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