

Schottky Dual Diode

PBYR245CT

45V / 2A

DATASHEET

OEM – Philips

Source: Philips Databook 1999

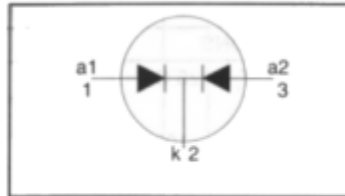
Rectifier diodes Schottky barrier

PBYR245CT series

FEATURES

- Low forward volt drop
- Fast switching
- Reverse surge capability
- High thermal cycling performance
- low profile surface mounting package

SYMBOL



QUICK REFERENCE DATA

$V_R = 40 \text{ V} / 45 \text{ V}$
$I_{O(AV)} = 2 \text{ A}$
$V_F \leq 0.45 \text{ V}$

GENERAL DESCRIPTION

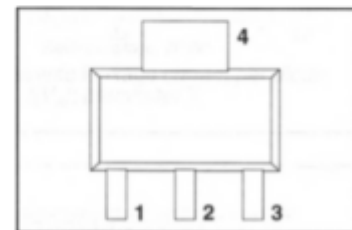
Dual, common cathode schottky rectifier diodes in a plastic envelope. Intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR245CT series is supplied in the surface mounting SOT223 package.

PINNING

PIN	DESCRIPTION
1	anode 1
2	cathode
3	anode 2
tab	cathode

SOT223



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.		UNIT
				40CT	45CT	
V_{RRM}	Peak repetitive reverse voltage	PBYR2	-	40	45	V
V_{RWM}	Working peak reverse voltage		-	40	45	V
V_R	Continuous reverse voltage	$T_{sp} \leq 74 \text{ }^\circ\text{C}$	-	40	45	V
$I_{O(AV)}$	Average rectified output current (both diodes conducting)	square wave; $\delta = 0.5$; $T_{sp} \leq 119 \text{ }^\circ\text{C}$	-	2		A
I_{FRM}	Repetitive peak forward current per diode	square wave; $\delta = 0.5$; $T_{sp} \leq 119 \text{ }^\circ\text{C}$	-	2		A
I_{FSM}	Non-repetitive peak forward current per diode	$t = 10 \text{ ms}$	-	6		A
		$t = 8.3 \text{ ms}$	-	6.6		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 $T_{j,max}$	-	1		A
T_j	Operating junction temperature		-	150		$^\circ\text{C}$
T_{stg}	Storage temperature		-40	150		$^\circ\text{C}$

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th(j-a)}$	Thermal resistance junction to ambient	pcb mounted, minimum footprint pcb mounted, pad area as in fig:1	-	156 70	-	K/W K/W

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ELECTRICAL CHARACTERISTICS

T = 25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage	$I_F = 1\text{ A}; T_j = 125^\circ\text{C}$	-	0.41	0.45	V
		$I_F = 2\text{ A}$	-	0.58	0.7	V
I_R	Reverse current	$V_R = V_{RWM}$	-	0.03	0.2	mA
		$V_R = V_{RWM}; T_j = 100^\circ\text{C}$	-	1.5	10	mA
C_d	Junction capacitance	$V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25^\circ\text{C to } 125^\circ\text{C}$	-	60	-	pF

PRINTED CIRCUIT BOARD

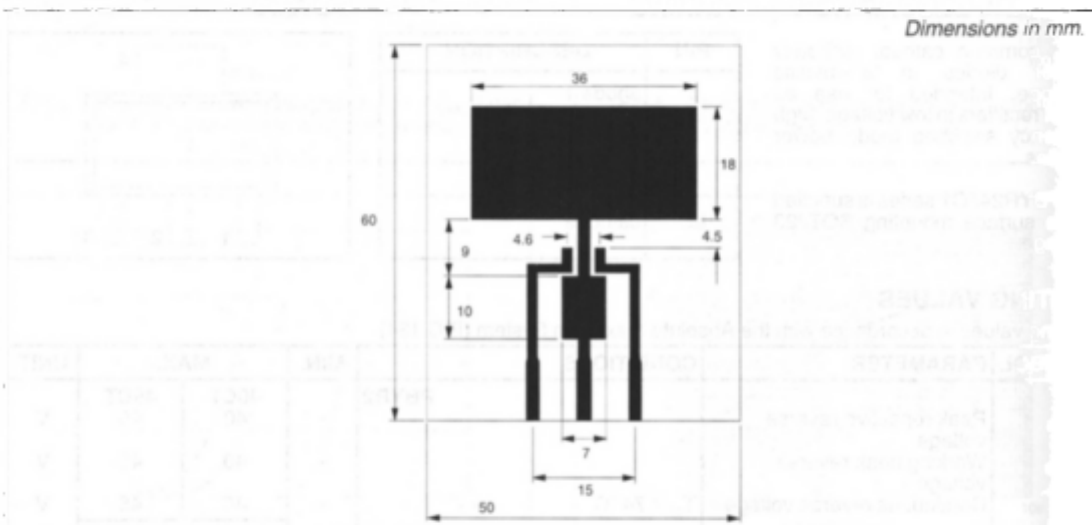


Fig.1. PCB for thermal resistance and power rating for SOT223.
PCB: FR4 epoxy glass (1.6 mm thick), copper laminate (35 μm thick).

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