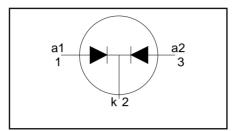
Rectifier diodes Schottky barrier

PBYR325CTD series

FEATURES

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

SYMBOL



QUICK REFERENCE DATA

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

$$I_{O(AV)} = 3 \text{ A}$$

$$V_F \le 0.4 \text{ V}$$

GENERAL DESCRIPTION

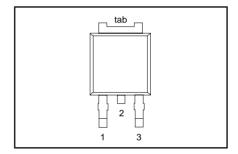
Dual schottky rectifier diodes intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR325CTD series is supplied in the SOT428 surface mounting package.

PINNING

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

SOT428



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.		UNIT
	Deal, manatiki, a manana	PBYR3		20CTD	25CTD	
V_{RRM}	Peak repetitive reverse voltage		-	20	25	V
V_{RWM}	Working peak reverse voltage		-	20	25	V
V_R	Continuous reverse voltage	T _{mb} ≤ 125 °C	-	20	25	\ \ \
I _{O(AV)}	Average rectified output current (both diodes conducting)	square wave; $\delta = 0.5$; $T_{mb} \le 144$ °C	-		3	А
I _{FRM}	Repetitive peak forward current per diode	square wave; $\delta = 0.5$; $T_{mb} \le 144$ °C	-	3	3	Α
I _{FSM}	Non-repetitive peak forward current per diode	t = 10 ms t = 8.3 ms sinusoidal; $T_j = 125 ^{\circ}\text{C}$ prior to surge; with reapplied $V_{\text{RRM(max)}}$	-		5 0	A A
I _{RRM}	Peak repetitive reverse surge current per diode	pulse width and repetition rate limited by T _{i max}	-	,	1	A
T _j	Operating junction temperature	, jiilax	-	15	50	°C
T _{stg}	Storage temperature		- 65	17	75	°C

¹ it is not possible to make connection to pin 2 of the SOT428 package

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THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
R _{th i-a}	to mounting base	per diode both diodes pcb mounted, minimum footprint, FR4 board		- - 50	5 4 -	K/W K/W K/W

ELECTRICAL CHARACTERISTICS

All characteristics are per diode at $T_i = 25$ °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_{F}	Forward voltage	I _F = 1.5 A; T _i = 125°C	-	0.34	0.4	V
'		$I_{\rm F} = 3 \text{ A}; T_{\rm i} = 125 ^{\circ}\text{C}$	-	0.39	0.5	V
		$I_{\rm F} = 3 \text{A}$	-	0.47	0.6	V
I _R	Reverse current	$\dot{V}_{R} = V_{RWM}$	-	0.05	2	mΑ
"		$V_{R} = V_{RWM}$; $T_{i} = 100^{\circ}C$	-	4	8	mΑ
C _d	Junction capacitance	$V_R = 5 \text{ V}; \text{ f} = 1 \text{ MHz}, T_j = 25 ^{\circ}\text{C} \text{ to } 125 ^{\circ}\text{C}$	-	117	-	pF

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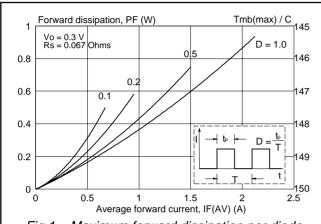
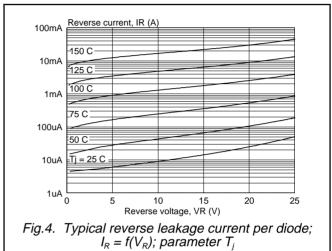


Fig.1. Maximum forward dissipation per diode $\vec{P}_F = f(I_{F(AV)})$; square current waveform where $I_{F(AV)} = I_{F(RMS)} \times \sqrt{D}$.



 $I_R = f(V_R)$; parameter T_i

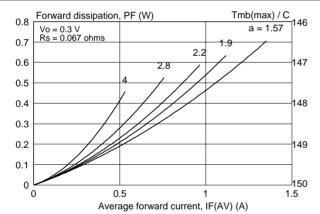


Fig.2. Maximum forward dissipation per diode $P_F = f(I_{F(AV)})$; sinusoidal current waveform where $a = form factor = I_{F(RMS)} / I_{F(AV)}$.

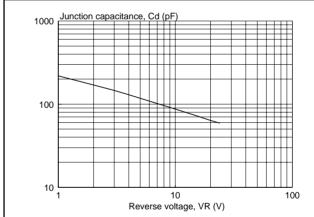
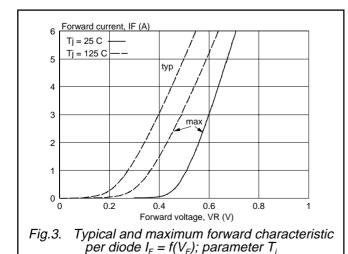
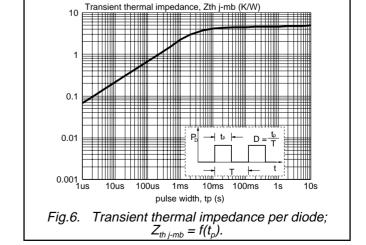


Fig.5. Typical junction capacitance per diode; $C_d = f(V_R)$; f = 1 MHz; $T_j = 25$ °C to 125°C.

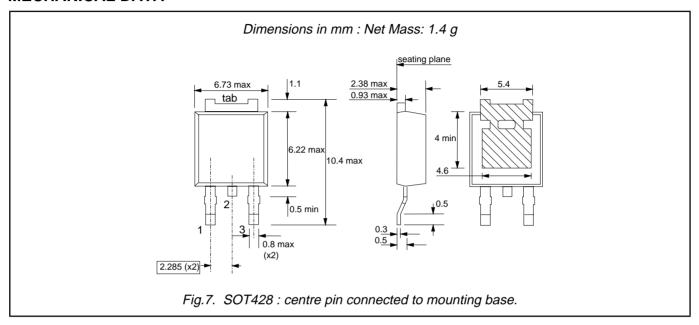




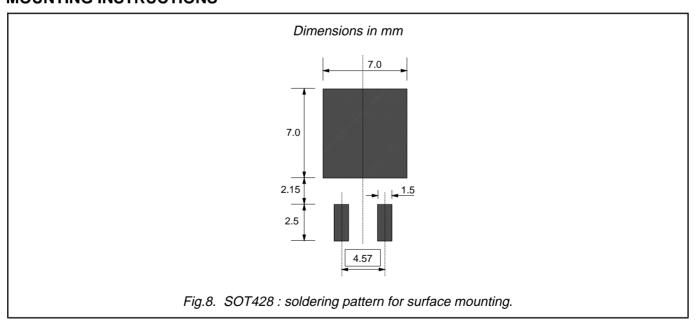
Philips Semiconductors Product specification

Rectifier diodes Schottky barrier PBYR325CTD series

MECHANICAL DATA



MOUNTING INSTRUCTIONS



Notes

- 1. Observe the general handling precautions for electrostatic-discharge sensitive devices (ESDs) to prevent damage to MOS gate oxide.
- 2. Epoxy meets UL94 V0 at 1/8".

Philips Semiconductors Product specification

Rectifier diodes Schottky barrier

PBYR325CTD series

DEFINITIONS

Data sheet status					
Objective specification	This data sheet contains target or goal specifications for product development.				
Preliminary specification This data sheet contains preliminary data; supplementary data may be published lat					
Product specification This data sheet contains final product specifications.					
Limiting values					

Limiting values are given in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of this specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

Application information

Where application information is given, it is advisory and does not form part of the specification.

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