

**Rectifier diodes
schottky barrier**

PBYR225CT series

GENERAL DESCRIPTION

Dual nickel silicide schottky barrier rectifier diodes in a plastic envelope suitable for surface mounting, featuring low forward voltage drop and absence of stored charge. These devices can withstand reverse voltage transients and have guaranteed reverse surge capability. The devices are intended for use in switched mode power supplies and d.c. to d.c. converters, or as or-ing diodes in fault tolerant power supply systems.

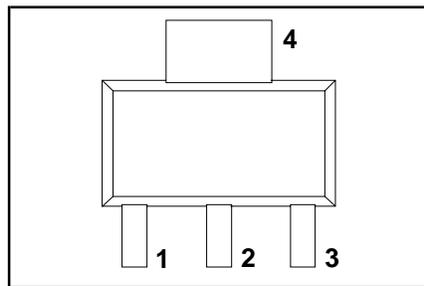
QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	MAX.	UNIT
		20CT	25CT	
V_{RRM}	Repetitive peak reverse voltage	20	25	V
V_F	Forward voltage	0.33	0.33	V
$I_{O(AV)}$	Output current (both diodes conducting)	2	2	A

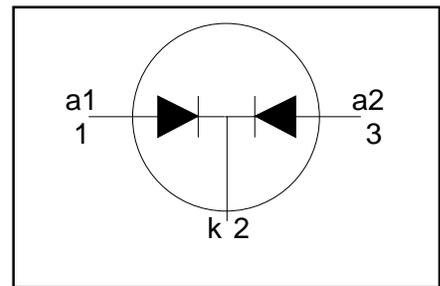
PINNING - SOT223

PIN	DESCRIPTION
1	anode 1 (a)
2	cathode (k)
3	anode 2 (a)
4	cathode (k)

PIN CONFIGURATION



SYMBOL



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	$T_{sp} \leq 97\text{ }^\circ\text{C}$	-	20	25	V
V_{RWM}	Crest working reverse voltage		-	20	25	V
V_R	Continuous reverse voltage		-	20	25	V
$I_{O(AV)}$	Output current (both diodes conducting)	square wave; $\delta = 0.5$; $T_{sp} \leq 136\text{ }^\circ\text{C}$	-	2		A
$I_{O(RMS)}$	RMS forward current	$t = 25\mu\text{s}$; $\delta = 0.5$; $T_{sp} \leq 136\text{ }^\circ\text{C}$	-	2.8		A
I_{FRM}	Repetitive forward peak current per diode		-	2		A
I_{FSM}	Non-repetitive peak forward current per diode.		$t = 10\text{ ms}$ $t = 8.3\text{ ms}$ sinusoidal $T_j = 125\text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RWM(max)}$	-	6	
I^2t	I^2t for fusing	$t = 10\text{ ms}$	-	0.18		A ² s
I_{RRM}	Repetitive peak reverse current per diode.	$t_p = 2\text{ }\mu\text{s}$; $\delta = 0.001$	-	1		A
I_{RSM}	Non-repetitive peak reverse current per diode.	$t_p = 100\text{ }\mu\text{s}$	-	1		A
T_{stg}	Storage temperature		-40	150		$^\circ\text{C}$
T_j	Operating junction temperature		-	150		$^\circ\text{C}$

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THERMAL RESISTANCES

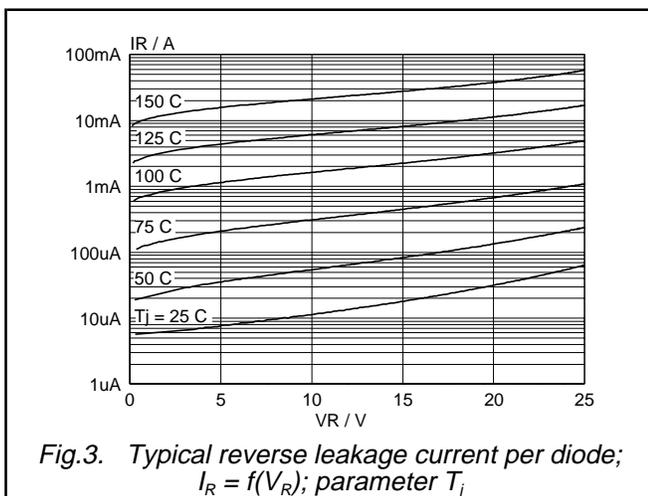
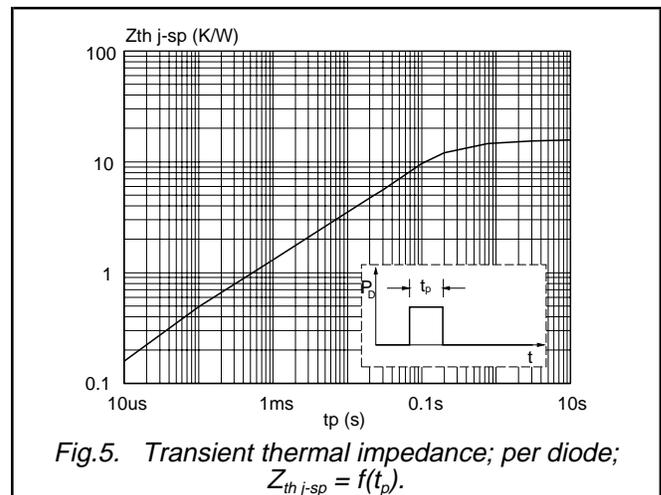
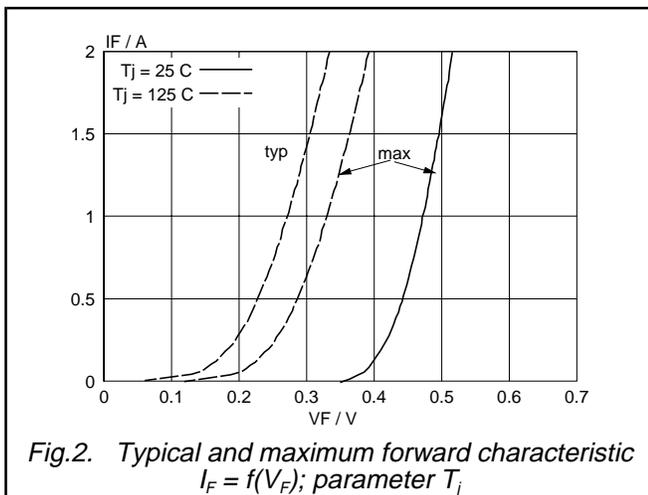
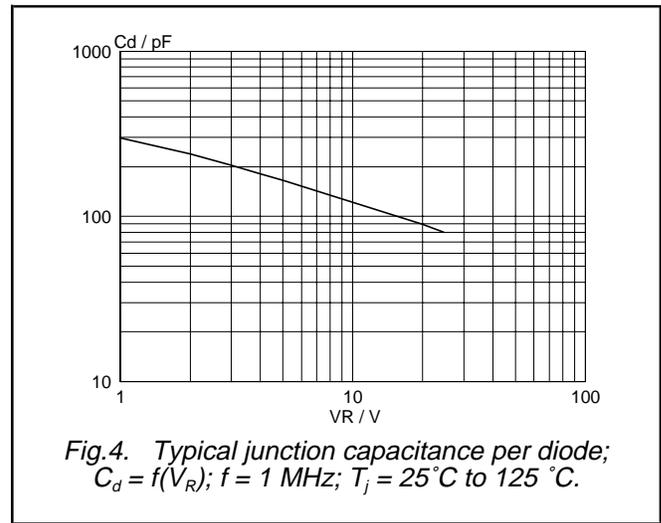
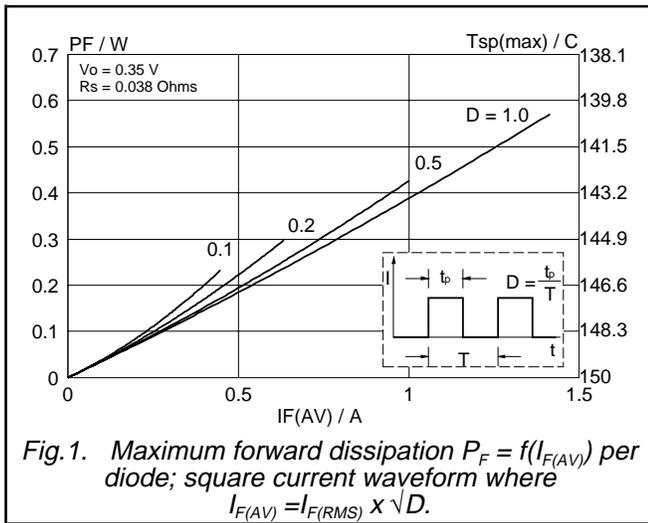
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-sp}$	Thermal resistance junction to solder point	one or both diodes conducting	-	-	17	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	pcb mounted; minimum footprint pcb mounted; pad area as in fig:6	- -	156 70	- -	K/W K/W

STATIC CHARACTERISTICS
 $T_j = 25\text{ °C}$ unless otherwise stated

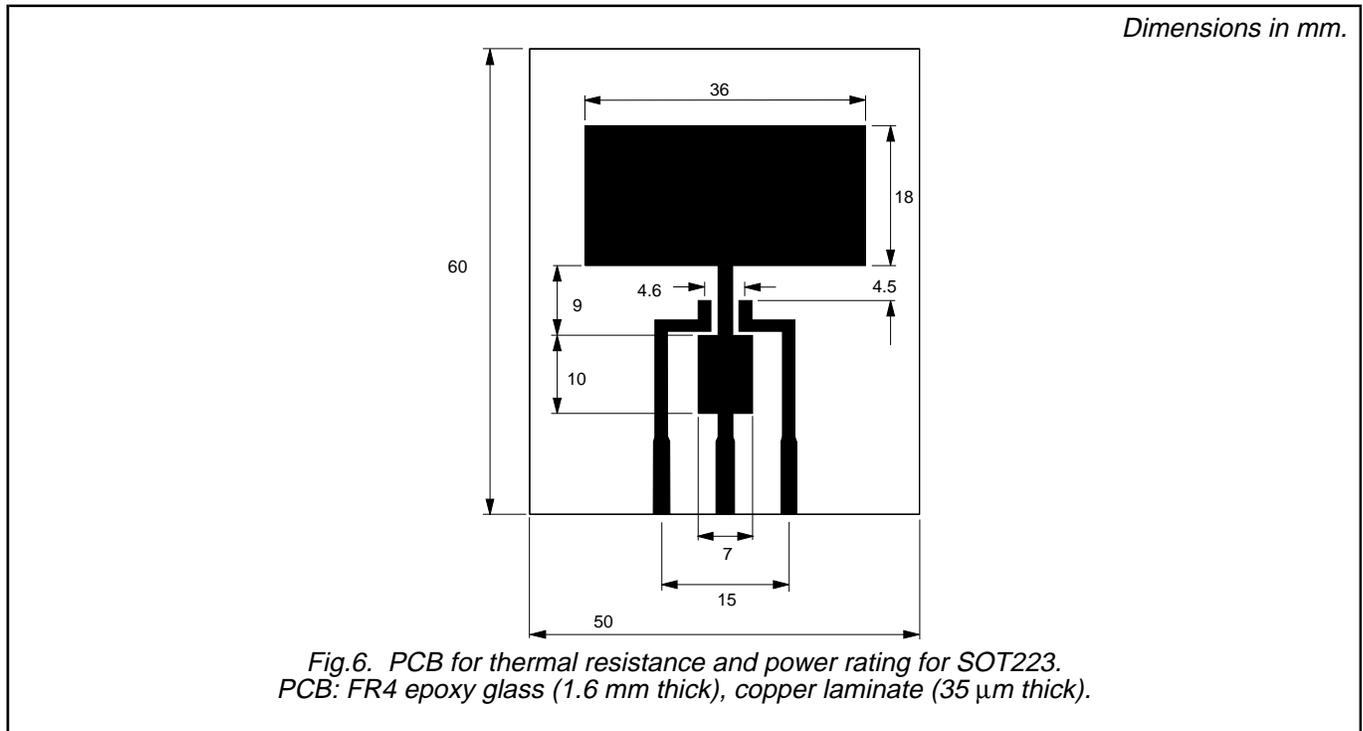
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage (per diode)	$I_F = 1\text{ A}; T_j = 125\text{ °C}$	-	0.28	0.33	V
		$I_F = 2\text{ A}$	-	0.42	0.51	V
I_R	Reverse current (per diode)	$V_R = V_{RWM}$	-	0.05	3	mA
		$V_R = V_{RWM}; T_j = 100\text{ °C}$	-	5	10	mA
C_d	Junction capacitance (per diode)	$f = 1\text{ MHz}; V_R = 5\text{ V}; T_j = 25\text{ °C to } 125\text{ °C}$	-	160	-	pF

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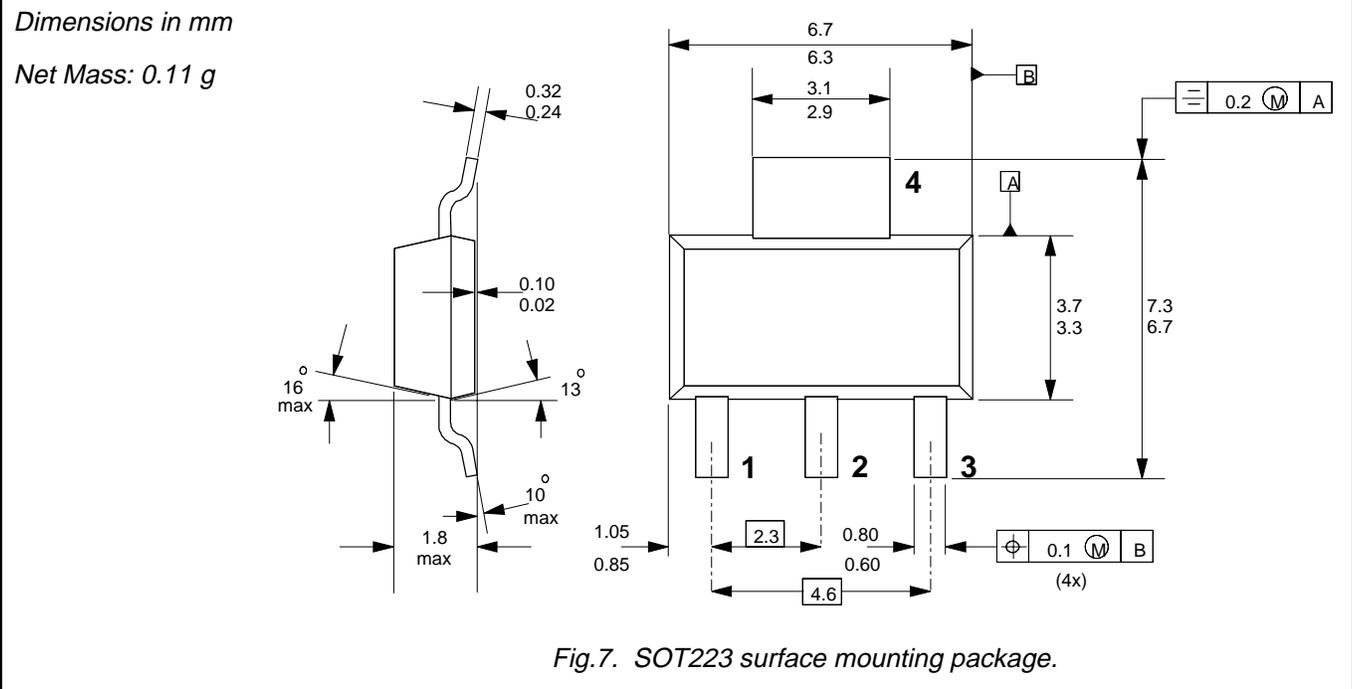
PRINTED CIRCUIT BOARD



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MECHANICAL DATA



Notes

1. For further information, refer to Philips publication SC18 " SMD Footprint Design and Soldering Guidelines".
Order code: 9397 750 00505.
2. Epoxy meets UL94 V0 at 1/8".

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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 later.
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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