

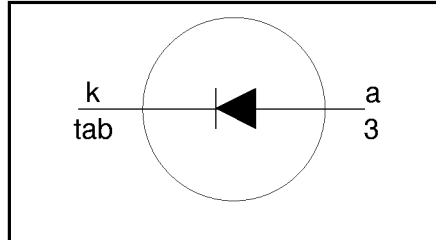
**Rectifier diodes
Schottky barrier**

PBYR10100B series

FEATURES

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

SYMBOL



QUICK REFERENCE DATA

$V_R = 60\text{ V} / 80\text{ V} / 100\text{ V}$
$I_{F(AV)} = 10\text{ A}$
$V_F \leq 0.7\text{ V}$

GENERAL DESCRIPTION

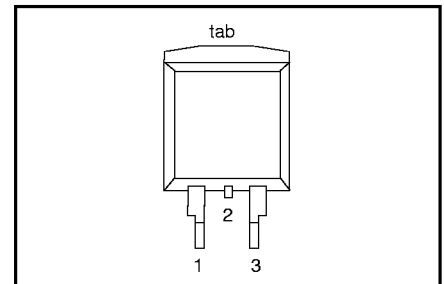
Schottky rectifier diodes in a plastic envelope. Intended for use as output rectifiers in low voltage, high frequency switched mode power supplies.

The PBYR10100B series is supplied in the surface mounting SOT404 package.

PINNING

PIN	DESCRIPTION
1	no connection
2	cathode ¹
3	anode
tab	cathode

SOT404



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.			UNIT
				60B	80B	100B	
V_{RRM}	Peak repetitive reverse voltage	PBYR10 $T_{mb} \leq 139\text{ }^\circ\text{C}$	-	60	80	100	V
V_{RWM}	Working peak reverse voltage		-	60	80	100	V
V_R	Continuous reverse voltage		-	60	80	100	V
$I_{F(AV)}$	Average rectified forward current	square wave; $\delta = 0.5$; $T_{mb} \leq 133\text{ }^\circ\text{C}$	-	10			A
I_{FRM}	Repetitive peak forward current	square wave; $\delta = 0.5$; $T_{mb} \leq 133\text{ }^\circ\text{C}$	-	20			A
I_{FSM}	Non-repetitive peak forward current	$t = 10\text{ ms}$	-	135			A
		$t = 8.3\text{ ms}$ sinusoidal; $T_j = 125\text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RRM(max)}$ pulse width and repetition rate limited by T_{jmax}	-	150			A
I_{RRM}	Peak repetitive reverse surge current		-	1			A
T_j	Operating junction temperature		-	150			$^\circ\text{C}$
T_{stg}	Storage temperature		- 65	175			$^\circ\text{C}$

¹ It is not possible to make connection to pin 2 of the SOT404 package

Rectifier diodes
Schottky barrier

PBYR10100B series

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-mb}$	Thermal resistance junction to mounting base	pcb mounted, minimum footprint, FR4 board	-	-	2	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient		-	50	-	K/W

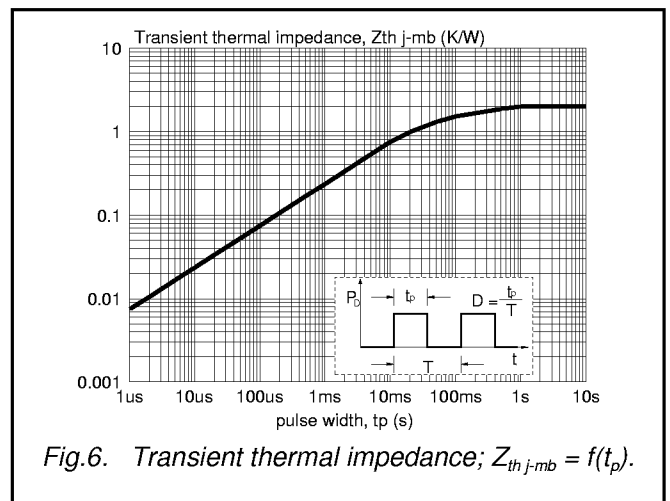
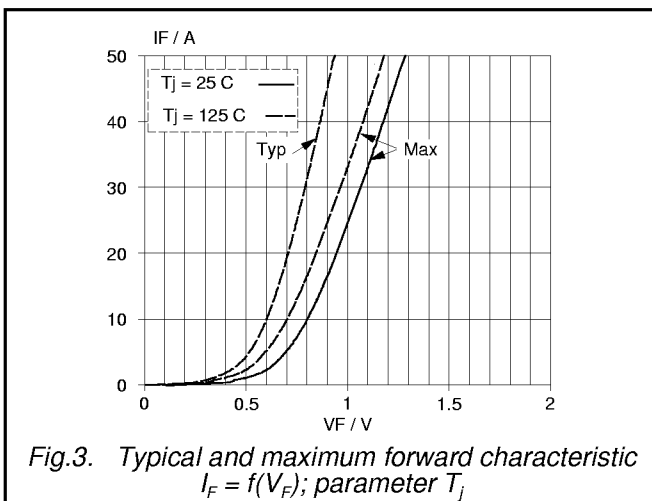
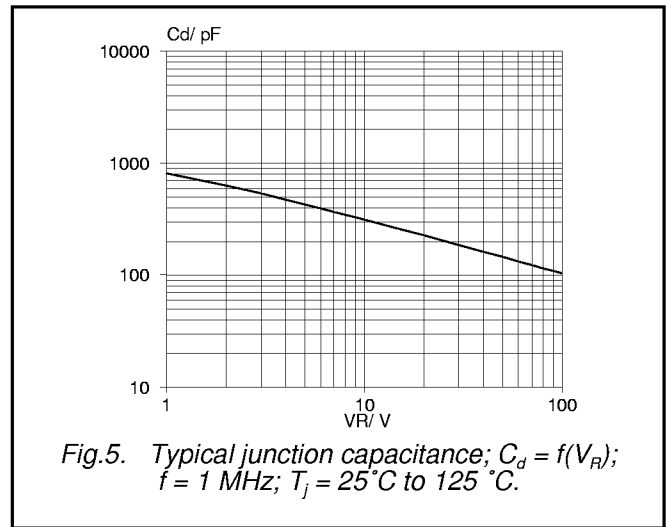
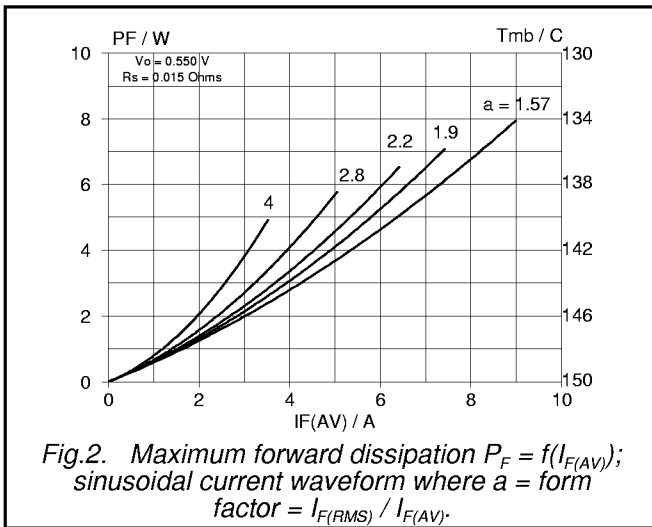
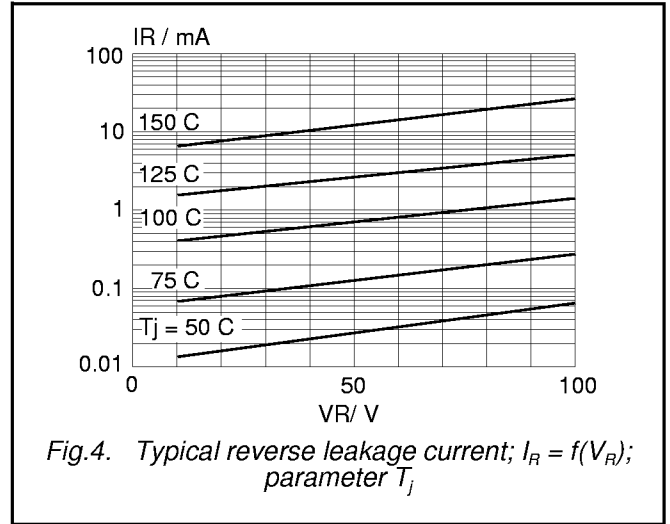
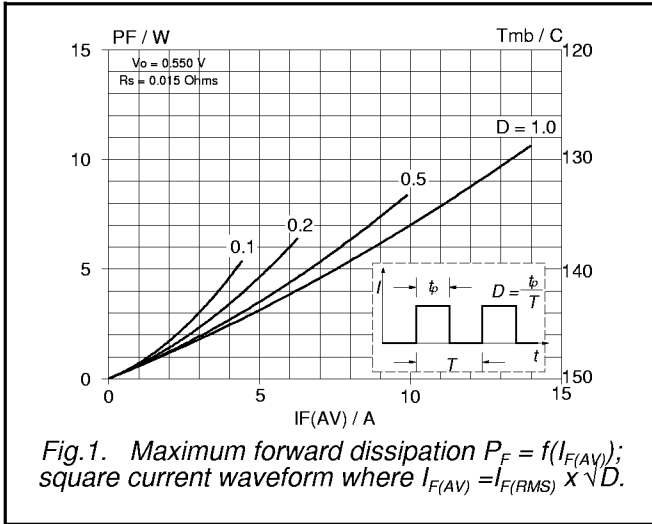
ELECTRICAL CHARACTERISTICS

$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage	$I_F = 10\text{ A}; T_j = 125\text{ }^\circ\text{C}$	-	0.61	0.7	V
		$I_F = 20\text{ A}; T_j = 125\text{ }^\circ\text{C}$	-	0.74	0.85	V
		$I_F = 20\text{ A}$	-	0.88	0.95	V
I_R	Reverse current	$V_R = V_{RWM}$	-	5	150	μA
		$V_R = V_{RWM}; T_j = 125\text{ }^\circ\text{C}$	-	5	15	mA
C_d	Junction capacitance	$V_R = 5\text{ V}; f = 1\text{ MHz}; T_j = 25\text{ }^\circ\text{C to } 125\text{ }^\circ\text{C}$	-	420	-	pF

Rectifier diodes
Schottky barrier

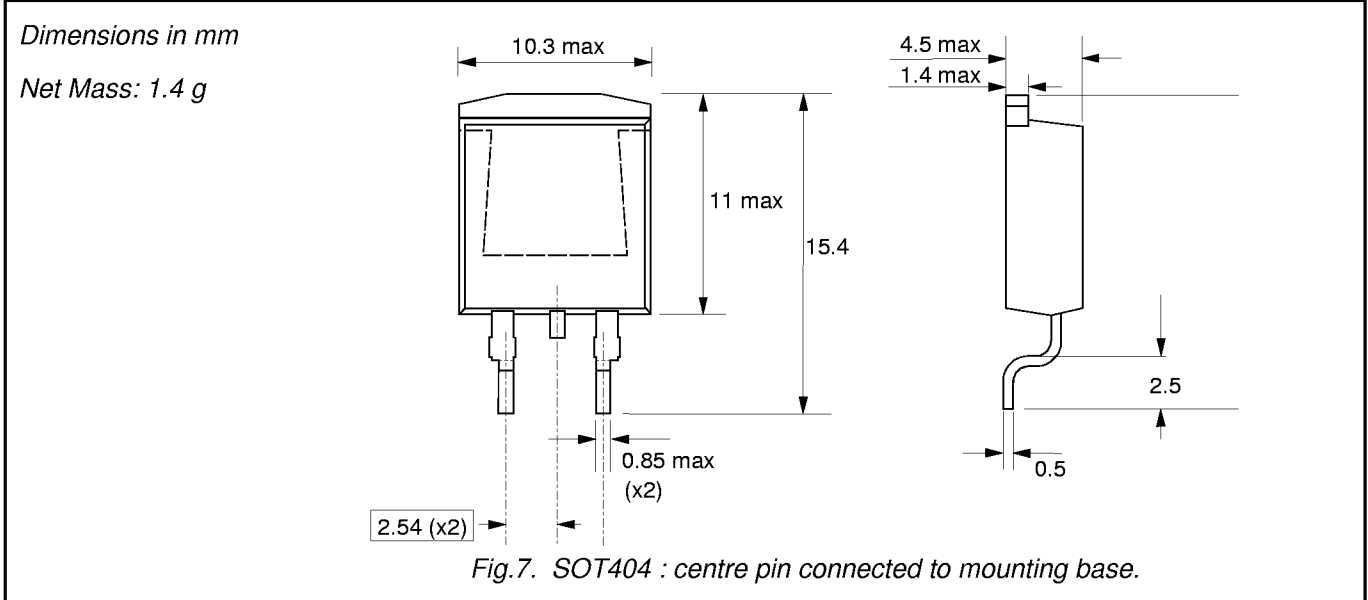
PBYR10100B series



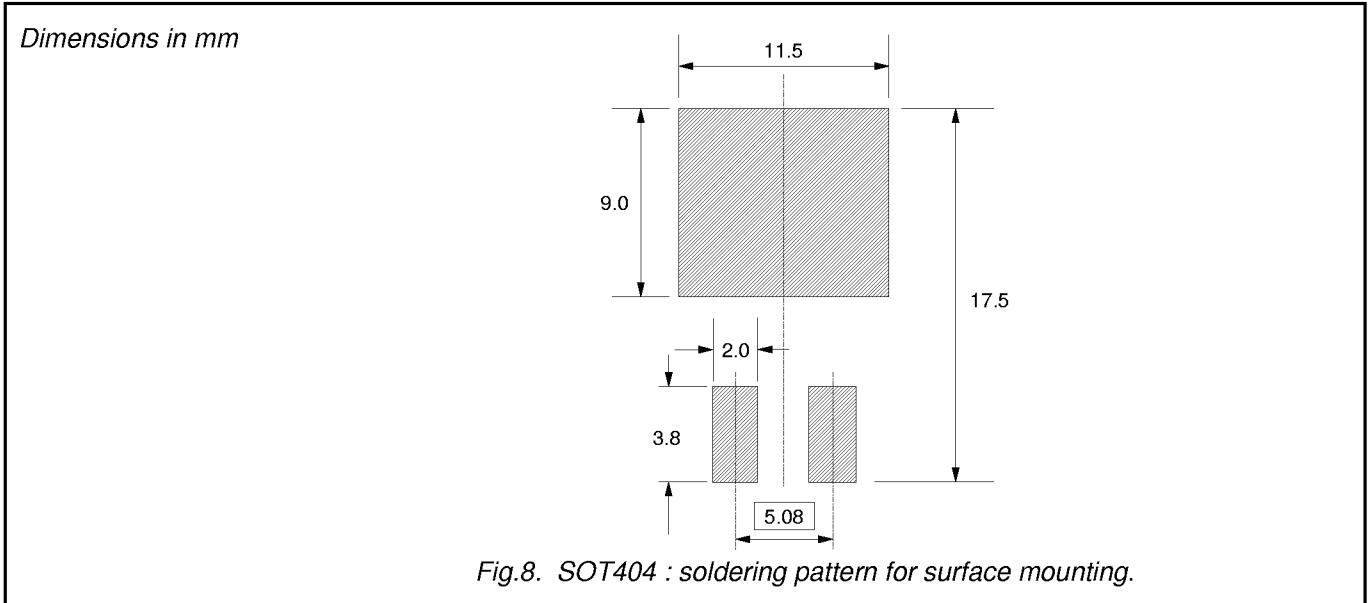
Rectifier diodes
Schottky barrier

PBYR10100B series

MECHANICAL DATA



MOUNTING INSTRUCTIONS



Notes

- 1. Epoxy meets UL94 V0 at 1/8".