

**Rectifier diodes  
schottky barrier**

**PBYR20100CTB series**

**GENERAL DESCRIPTION**

Dual low leakage, platinum barrier, schottky rectifier diodes in a plastic envelope suitable for surface mounting, featuring low forward voltage drop, absence of stored charge, and guaranteed reverse surge capability. The devices are intended for use in switched mode power supplies and high frequency circuits in general where low conduction and zero switching losses are important.

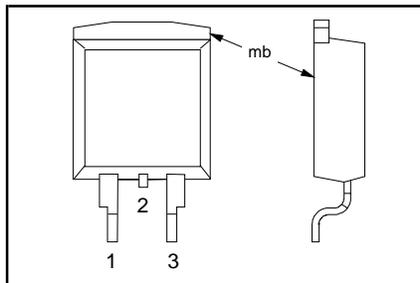
**QUICK REFERENCE DATA**

SYMBOL	PARAMETER	MAX.	MAX.	MAX.	UNIT
		60CTB	80CTB	100CTB	
$V_{RRM}$	Repetitive peak reverse voltage	60	80	100	V
$V_F$	Forward voltage	0.7	0.7	0.7	V
$I_{O(AV)}$	Output current (both diodes conducting)	20	20	20	A

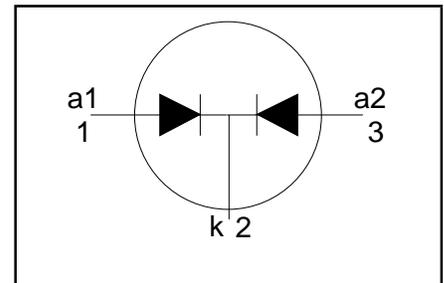
**PINNING - SOT404**

PIN	DESCRIPTION
1	anode 1
2	cathode
3	anode 2
mb	cathode

**PIN CONFIGURATION**



**SYMBOL**



**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.			UNIT
				-60	-80	-100	
$V_{RRM}$	Repetitive peak reverse voltage		-	60	80	100	V
$V_{RWM}$	Crest working reverse voltage		-	60	80	100	V
$V_R$	Continuous reverse voltage	$T_{mb} \leq 139\text{ }^\circ\text{C}$	-	60	80	100	V
$I_{O(AV)}$	Output current (both diodes conducting)	square wave; $\delta = 0.5$ ; $T_{mb} \leq 133\text{ }^\circ\text{C}$	-	20			A
$I_{O(RMS)}$	RMS forward current		-	28			A
$I_{FRM}$	Repetitive peak forward current per diode	$t = 25\text{ }\mu\text{s}$ ; $\delta = 0.5$ ; $T_{mb} \leq 133\text{ }^\circ\text{C}$	-	20			A
$I_{FSM}$	Non-repetitive peak forward current per diode.	$t = 10\text{ ms}$	-	135			A
		$t = 8.3\text{ ms}$	-	150			A
		sinusoidal $T_j = 125\text{ }^\circ\text{C}$ prior to surge; with reapplied					
$I^2t$	$I^2t$ for fusing	$V_{RRM(max)}$ $t = 10\text{ ms}$	-	91			A <sup>2</sup> 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		-65	175			$^\circ\text{C}$
$T_j$	Operating junction temperature		-	150			$^\circ\text{C}$

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**THERMAL RESISTANCES**

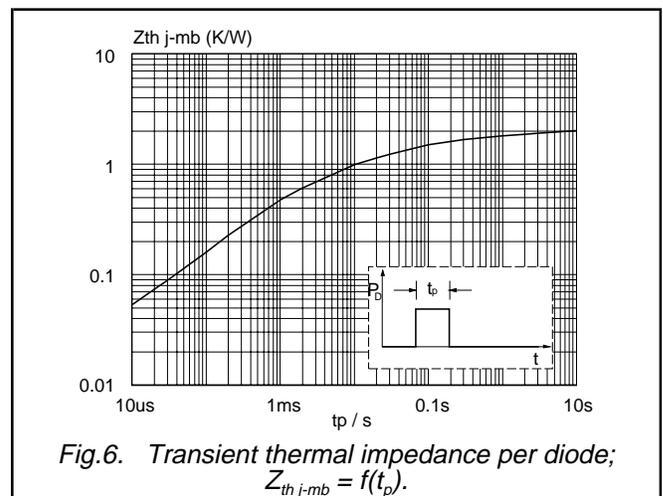
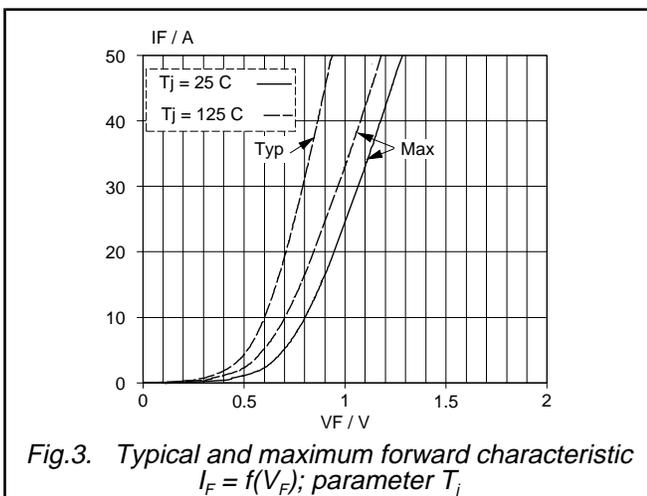
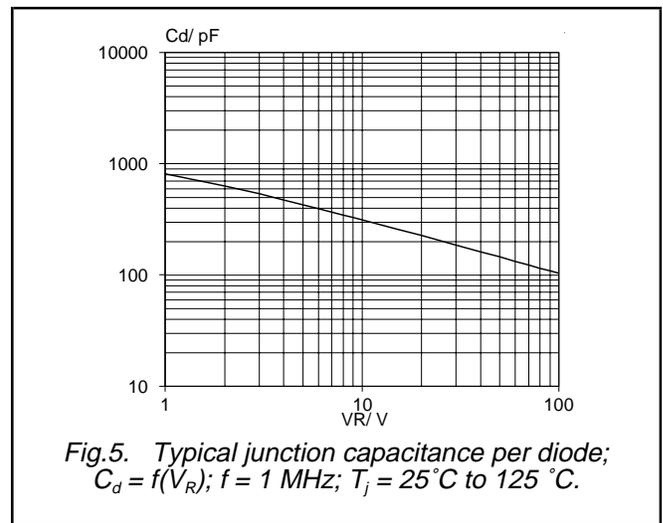
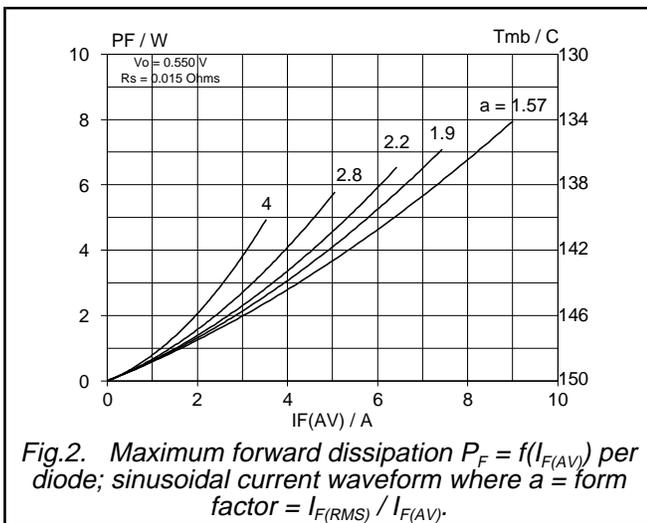
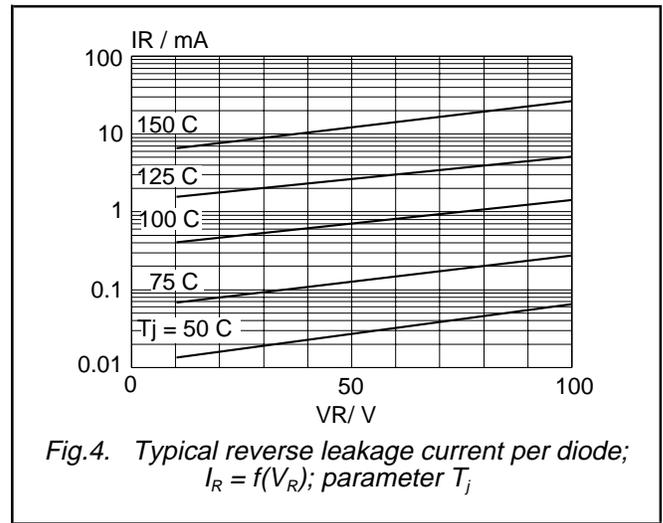
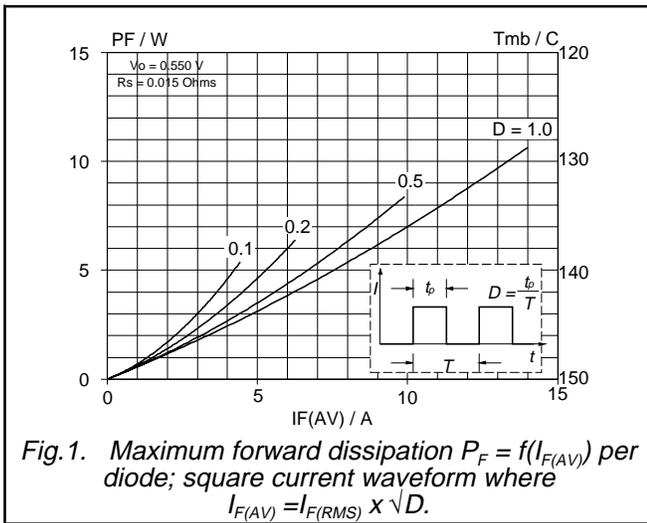
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-mb}$	Thermal resistance junction to mounting base	per diode	-	-	2.0	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	both diodes pcb mounted, minimum footprint	-	-	1.0	K/W
			-	50	-	K/W

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_F$	Forward voltage (per diode)	$I_F = 10\text{ A}; T_j = 125\text{ °C}$	-	0.61	0.70	V
		$I_F = 20\text{ A}; T_j = 125\text{ °C}$	-	0.74	0.85	V
		$I_F = 20\text{ A}; T_j = 25\text{ °C}$	-	0.88	0.95	V
$I_R$	Reverse current (per diode)	$V_R = V_{RRM}; T_j = 25\text{ °C}$	-	5.0	150	$\mu\text{A}$
		$V_R = V_{RRM}; T_j = 125\text{ °C}$	-	5.0	15	mA
$C_d$	Junction capacitance (per diode)	$f = 1\text{ MHz}; V_R = 5\text{ V}; T_j = 25\text{ °C to } 125\text{ °C}$	-	420	-	pF

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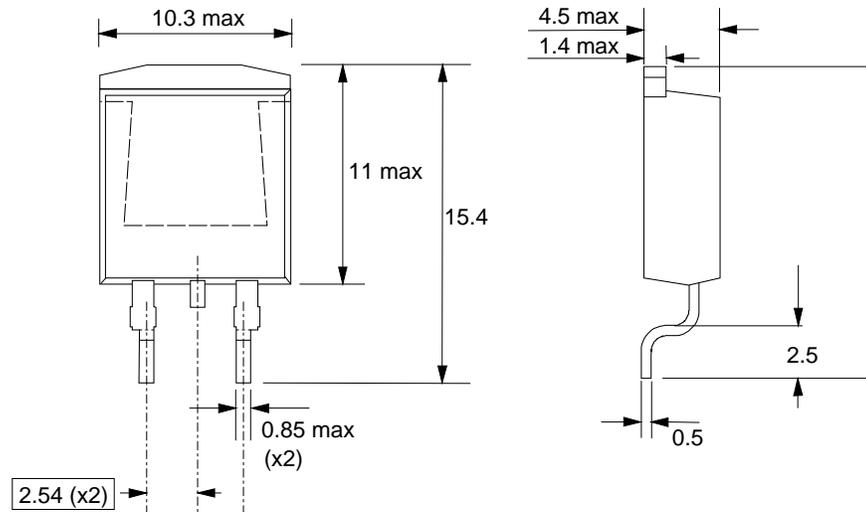
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**MECHANICAL DATA**

*Dimensions in mm*

*Net Mass: 1.4 g*



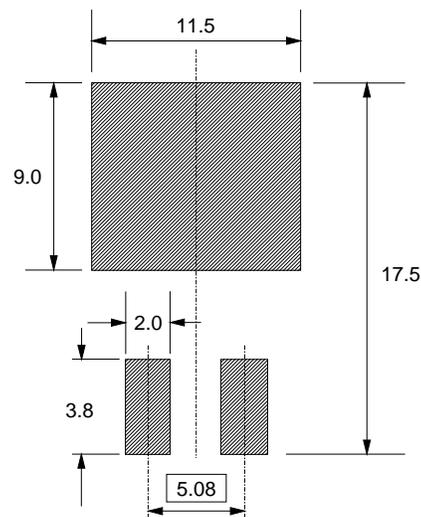
*Fig.7. SOT404 : centre pin connected to mounting base.*

**Notes**

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

**MOUNTING INSTRUCTIONS**

*Dimensions in mm*



*Fig.8. SOT404 : minimum pad sizes for surface mounting.*

**Notes**

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

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**DEFINITIONS**

<b>Data sheet status</b>	
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.
<b>Limiting values</b>	
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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	
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