

# Rectifier diodes schottky barrier

# PBYR3045PTF series

## GENERAL DESCRIPTION

Dual, low leakage, platinum barrier, schottky barrier rectifier diodes in a full pack, plastic envelope 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 high frequency circuits in general where low conduction and zero switching losses are important.

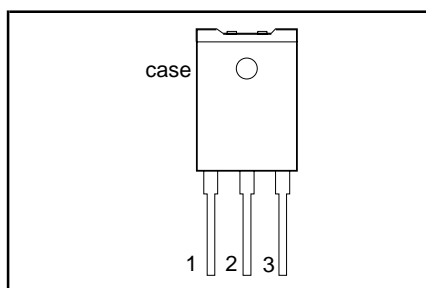
## QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.			UNIT
		35PTF	40PTF	45PTF	
$V_{RRM}$	Repetitive peak reverse voltage	35	40	45	V
$V_F$	Forward voltage	0.65	0.65	0.65	V
$I_{O(AV)}$	Output current (both diodes conducting)	20	20	20	A

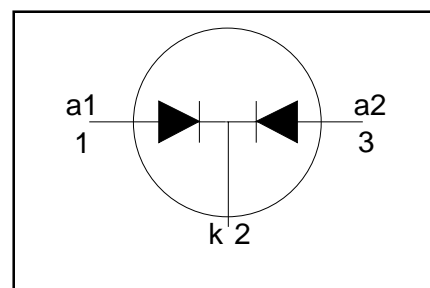
## PINNING - SOT199

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

## PIN CONFIGURATION



## SYMBOL



## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.			UNIT
				-35	-40	-45	
$V_{RRM}$	Repetitive peak reverse voltage	$T_{hs} \leq 113\text{ }^{\circ}\text{C}$	-	35	40	45	V
$V_{RWM}$	Crest working reverse voltage		-	35	40	45	V
$V_R$	Continuous reverse voltage		-	35	40	45	V
$I_{O(AV)}$	Output current (both diodes conducting)	square wave; $\delta = 0.5$ ; $T_{hs} \leq 109\text{ }^{\circ}\text{C}$	-	20			A
$I_{O(RMS)}$	RMS forward current	$t = 25\text{ }\mu\text{s}$ ; $\delta = 0.5$ ; $T_{hs} \leq 109\text{ }^{\circ}\text{C}$	-	20			A
$I_{FRM}$	Repetitive peak forward current per diode		-	30			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	-	135		
			-	150			A
$I^2t$	$I^2t$ for fusing	$V_{RWM(max)}$ $t = 10\text{ ms}$	-	91			$\text{A}^2\text{s}$
$I_{RRM}$	Repetitive peak reverse current per diode.	$t_p = 2\text{ }\mu\text{s}$ ; $\delta = 0.001$	-	2			A
$I_{RSM}$	Non-repetitive peak reverse current per diode.	$t_p = 100\text{ }\mu\text{s}$	-	2			A
$T_{stg}$	Storage temperature		-65	175			$^{\circ}\text{C}$
$T_j$	Operating junction temperature		-	150			$^{\circ}\text{C}$

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**ISOLATION LIMITING VALUE & CHARACTERISTIC**
 $T_{hs} = 25\text{ °C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{isol}$	Repetitive peak voltage from all three terminals to external heatsink	R.H. $\leq 65\%$ ; clean and dustfree	-		2500	V
$C_{isol}$	Capacitance from T2 to external heatsink	$f = 1\text{ MHz}$	-	22	-	pF

**THERMAL RESISTANCES**

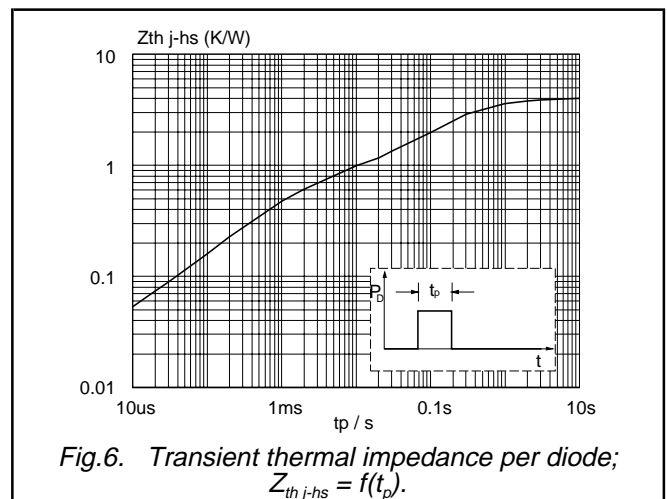
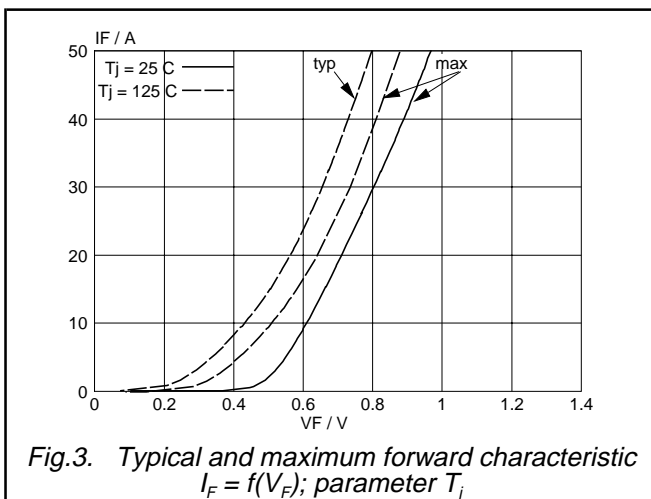
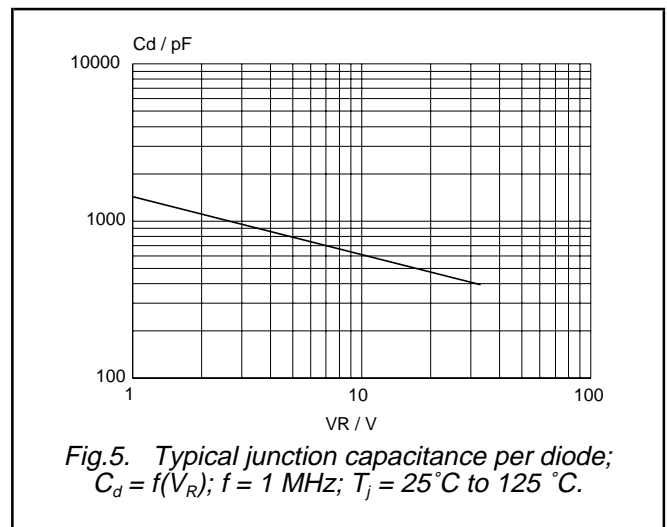
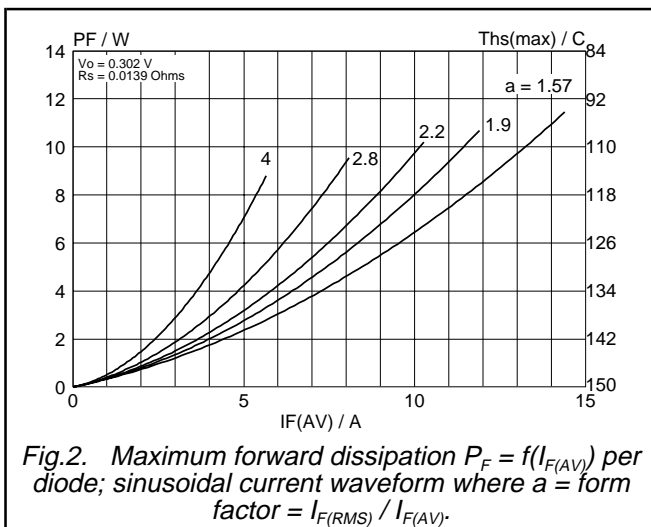
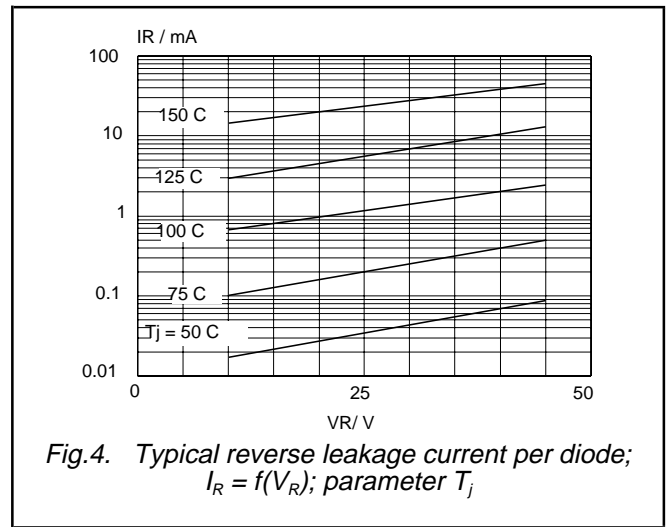
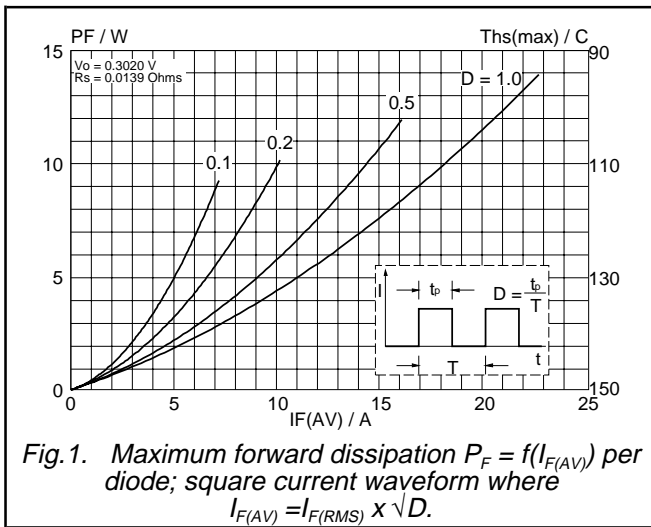
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-hs}$	Thermal resistance junction to heatsink	per diode both diodes (with heatsink compound)	-	-	4.0	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	in free air.	-	35	-	K/W

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_F$	Forward voltage (per diode)	$I_F = 30\text{ A}; T_j = 125\text{ °C}$ $I_F = 20\text{ A}; T_j = 125\text{ °C}$	-	0.70	0.75	V
$I_R$	Reverse current (per diode)	$I_F = 30\text{ A}$ $V_R = V_{RWM}$	-	0.58	0.65	V
$C_d$	Junction capacitance (per diode)	$I_F = 30\text{ A}$ $V_R = V_{RWM}; T_j = 125\text{ °C}$ $f = 1\text{ MHz}; V_R = 5\text{ V}; T_j = 25\text{ °C to } 125\text{ °C}$	-	0.75	0.80	V
			-	100	200	$\mu\text{A}$
			-	12	40	mA
			-	800	-	pF

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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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