

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.

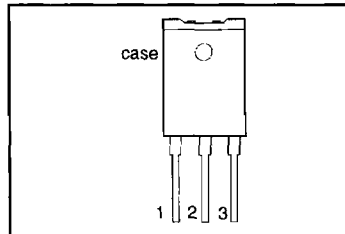
QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	MAX.	MAX.	UNIT
V_{RRM}	PBYR30- Repetitive peak reverse voltage Forward voltage Output current (both diodes conducting)	35PTF	40PTF	45PTF	V
V_F		0.65	0.65	0.65	V
$I_{O(AV)}$		20	20	20	A

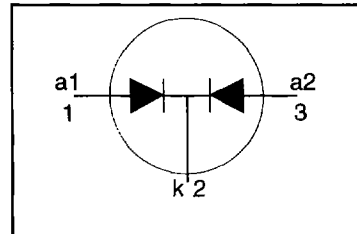
PINNING - SOT199

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		
I^2t	I^2t for fusing	$V_{RWM(max)}$ $t = 10 \text{ ms}$	-	91			A ² 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			$^\circ\text{C}$

**Rectifier diodes
schottky barrier**
PBYR3045PTF series
ISOLATION LIMITING VALUE & CHARACTERISTIC
 $T_{hs} = 25\text{ }^{\circ}\text{C}$ 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	-	-	4.0	K/W
		both diodes (with heatsink compound)	-	-	3.5	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	in free air.	-	35	-	K/W

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

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

Rectifier diodes
schottky barrier

PBYR3045PTF series

