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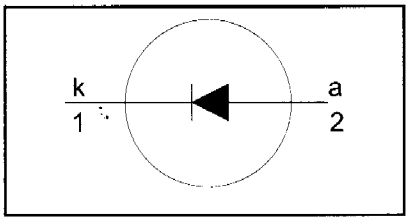
Rectifier diodes fast, soft-recovery

BY329 series

FEATURES

- Low forward volt drop
- Fast switching
- Soft recovery characteristic
- High thermal cycling performance
- Low thermal resistance

SYMBOL



QUICK REFERENCE DATA

V_R = 800 V/ 1000 V/ 1200 V

$I_{F(AV)}$ = 8 A

$I_{FSM} \leq$ 75 A

$t_{rr} \leq$ 135 ns

GENERAL DESCRIPTION

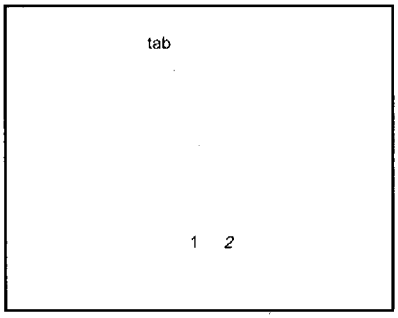
Glass-passivated double diffused rectifier diodes featuring low forward voltage drop, fast reverse recovery and soft recovery characteristic. The devices are intended for use in TV receivers, monitors and switched mode power supplies.

The BY329 series is supplied in the conventional leaded SOD59 (TO220AC) package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode
tab	cathode

SOD59 (TO220AC)



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.			UNIT
		BY329		-800	-1000	-1200	
V_{RSM}	Peak non-repetitive reverse voltage		-	800	1000	1200	V
V_{RRM}	Peak repetitive reverse voltage		-	800	1000	1200	V
V_{RWM}	Crest working reverse voltage		-	600	800	1000	V
$I_{F(AV)}$	Average forward current[1]	square wave; δ = 0.5; $T_{mb} \leq$ 122 °C	-	8			A
		sinusoidal; a = 1.57; $T_{mb} \leq$ 125 °C	-	7			A
$I_{F(RMS)}$	RMS forward current		-	11			A
I_{FRM}	Repetitive peak forward current	t = 25 µs; δ = 0.5; $T_{mb} \leq$ 122 °C	-	16			A
I_{FSM}	Non-repetitive peak forward current.	t = 10 ms	-	75			A
		t = 8.3 ms	-	82			A
		sinusoidal; T_j = 150 °C prior to surge; with reapplied $V_{RWM(max)}$					
I^2t	I^2t for fusing	t = 10 ms	-	28			A^2s
T_{stg}	Storage temperature		-40	150			°C
T_j	Operating junction temperature		-	150			°C

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j\text{-}mb}$	Thermal resistance junction to mounting base		-	-	2.0	K/W
$R_{th\ j\text{-}a}$	Thermal resistance junction to ambient	in free air.	-	60	-	K/W

STATIC CHARACTERISTICS

T_j = 25 °C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	Forward voltage	I_F = 20 A	-	1.5	1.85	V
I_R	Reverse current	$V_R = V_{RWM}$; T_j = 125 °C	-	0.1	1.0	mA

DYNAMIC CHARACTERISTICS

T_j = 25 °C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
t_{rr}	Reverse recovery time	I_F = 1 A; $V_R \geq$ 30 V; $-dI_F/dt$ = 50 A/µs	-	100	135	ns
Q_s	Reverse recovery charge	I_F = 2 A; $V_R \geq$ 30 V; $-dI_F/dt$ = 20 A/µs	-	0.5	0.7	µC
dI_R/dt	Maximum slope of the reverse recovery current	I_F = 2 A; $-dI_F/dt$ = 20 A/µs	-	50	60	A/µs