

Silicon Diode

BY249-600

600V/7A

DATASHEET

OEM – Philips

Source: Philips Databook 1999

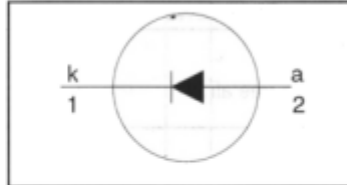
Rectifier diodes general purpose

BY249 series

FEATURES

- Low forward volt drop
- High thermal cycling performance
- Low thermal resistance

SYMBOL



QUICK REFERENCE DATA

$$V_R = 300 \text{ V} / 600 \text{ V} / 800 \text{ V}$$

$$V_F \leq 1.05 \text{ V}$$

$$I_{F(AV)} = 7 \text{ A}$$

$$I_{FSM} \leq 60 \text{ A}$$

GENERAL DESCRIPTION

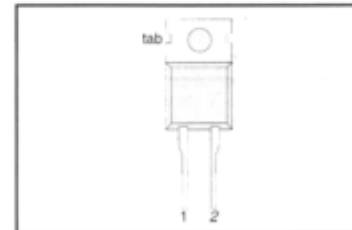
Glass-passivated double diffused rectifier diodes. The devices are intended for low frequency power rectifier applications.

The BY249 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			UNIT
		BY249		-300	-600	-800	
V_{RSM}	Peak non-repetitive reverse voltage		-	300	600	800	V
V_{RRM}	Peak repetitive reverse voltage		-	300	600	800	V
V_{RWM}	Crest working reverse voltage		-	200	500	700	V
V_R	Continuous reverse voltage		-	200	500	700	V
$I_{F(AV)}$	Average forward current ¹	sinusoidal; $a = 1.57$; $T_{mb} \leq 131 \text{ }^\circ\text{C}$	-	7			A
$I_{F(RMS)}$	RMS forward current		-	11			A
I_{FRM}	Peak repetitive forward current	sinusoidal; $a = 1.57$;	-	60			A
I_{FSM}	Peak non-repetitive forward current.	$t = 10 \text{ ms}$	-	60			A
		$t = 8.3 \text{ ms}$	-	66			A
		sinusoidal; $T_j = 150 \text{ }^\circ\text{C}$ prior to surge; with reapplied $V_{RWM(max)}$					
I^2t	I^2t for fusing	$t = 10 \text{ ms}$	-	18			A ² s
T_{stg}	Storage temperature		-40	150			$^\circ\text{C}$
T_j	Operating junction temperature		-	150			$^\circ\text{C}$

¹ Neglecting switching and reverse current losses.

Rectifier diodes
general purpose

BY249 series

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
R_{thj-mb}	Thermal resistance junction to mounting base	in free air.	-	-	2.0	K/W
R_{thj-a}	Thermal resistance junction to ambient		-	60	-	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	$I_F = 20\text{ A}$	-	1.2	1.6	V
		$I_F = 5\text{ A}; T_j = 100\text{ }^\circ\text{C}$	-	0.9	1.05	V
I_R	Reverse current	$V_R = V_{RWM}; T_j = 125\text{ }^\circ\text{C}$	-	0.1	0.4	mA

Rectifier diodes
general purpose

BY249 series

