

Schottky Barrier Rectifier

HIGH VOLTAGE SCHOTTKY RECTIFIER

Features

- · Low forward voltage drop
- Low power loss and High efficiency
- · Low leakage current
- · High surge capability
- Full lead-free(Pb) component and RoHS compliant device

Pin Configuration Pin 1: Cathode Pin 2: Anode TO-220F-2L

Applications

- High efficiency SMPS
- Output rectification
- · High frequency switching
- Freewheeling
- DC-DC converter systems

Product Characteristics

I _{F(AV)}	5A
V_{RRM}	100V
V _{FM} at 125℃	0.68V
I _{FSM}	120A

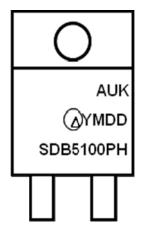
Description

The SDB5100PH is ideally suited for a full wave output rectifier in low switching power supplies, inverters and as free wheeling diodes.

Ordering Information

Device	Marking Code	Package	Packaging
SDB5100PH	SDB5100PH	TO-220F-2L	Tube

Marking Information



AUK = Manufacture Logo

 Δ = Control Code of Manufacture

YMDD = Date Code Marking

-. Y = Year Code

-. M = Monthly Code

-. D = Daily Code

SDB5100PH = Specific Device Code

Absolute Maximum Ratings (Limiting Values)

Characteristic	Symbol	Value	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage	$egin{array}{c} egin{array}{c} \egin{array}{c} \egin{array}{c} \egin{array}{c} \egin{array}$	100	٧
Maximum average forward rectified current	I _{F(AV)}	5	А
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	120	А
Storage temperature range	T _{stg}	-45℃ to +150℃	$^{\circ}$ C
Maximum operating junction temperature	TJ	150	$^{\circ}$ C

Thermal Characteristics

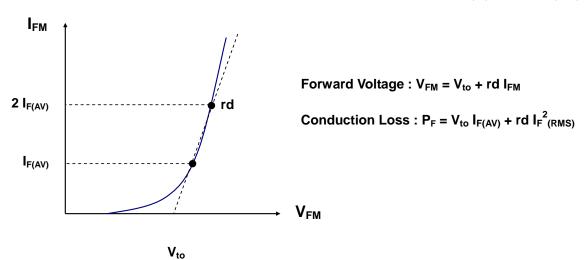
Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	R _{th(j-c)}	4.0	°C/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Peak forward voltage drop	V _{FM} ⁽¹⁾	I _{FM} = 5A	T _j =25℃	ı	ı	0.85	V
			T _j =125℃	-	-	0.68	٧
Reverse leakage current	I _{RM} ⁽¹⁾	$V_R = V_{RRM}$	T _j =25℃	-	-	10	uA
			T _j =125℃	-	-	10	mA
Junction capacitance	C _j	$V_R = 4V_{DC}$, f=1MHz		-	100	-	pF

Note : (1) Pulse test : $t_P \le 380 \ \mu\text{s}$, Duty cycle $\le 2\%$

To evaluate the conduction losses use the following equation (Fig 4.): $P_F = 0.62 \times I_{F(AV)} + 0.042 I_{F(RMS)}^2$



Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

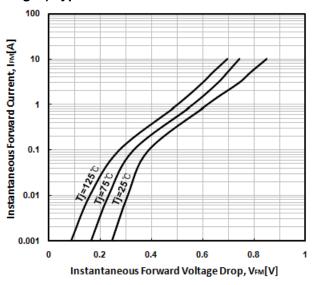


Fig. 3) Maximum Forward Derative Curve

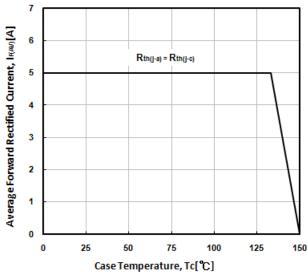


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

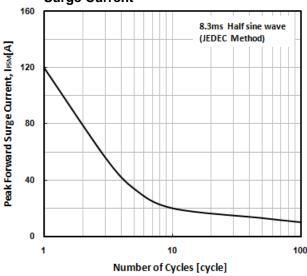


Fig. 2) Typical Reverse Characteristics

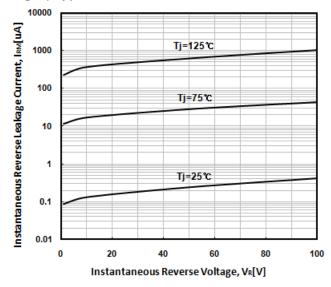


Fig. 4) Forward Power Dissipation

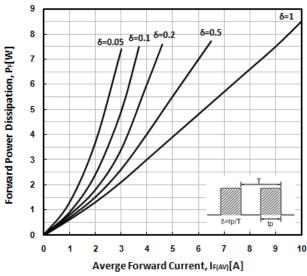
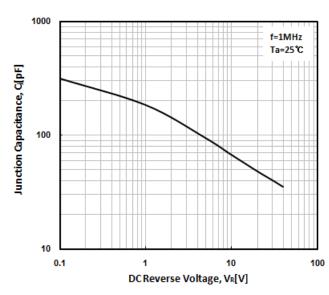
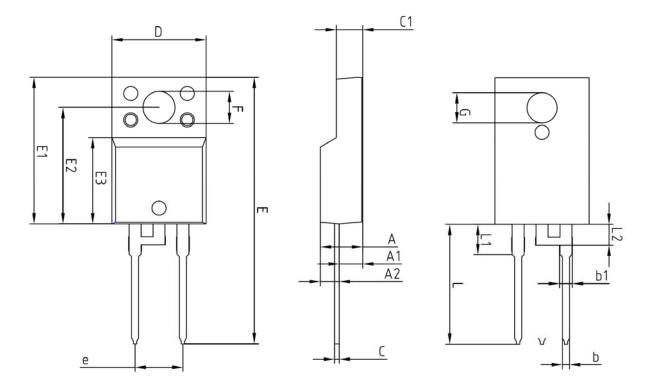


Fig. 6) Typical Junction Capacitance



Package Outline Dimension



SYMBOL	MINIMUM	NOMINAL	MAXIMUM	NOTE
Α	_	_	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
Ь	0.65	0.75	0.85	
Ь1	1.07	1.27	1.47	
С	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
Ε	28.00	_	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
е	5.08 BSC			
L	12.40	_	13.00	
L1	3.46 BSC			
L2	2.21 BSC			

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