

**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(Pb)-free 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 <sub>F(AV)</sub>	10A
$V_{RRM}$	150V
V <sub>FM</sub> at 125℃	0.78V
I <sub>FSM</sub>	120A

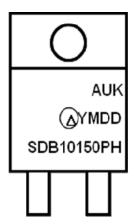
# **Description**

The SDB10150PH 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				
SDB10150PH	SDB10150PH	TO-220F-2L	Tube				

# **Marking Information**



AUK = Manufacture Logo

 $\Delta$  = Control Code of Manufacture

YMDD = Date Code Marking

-. Y = Year Code

-. M = Monthly Code

-. D = Daily Code

SDB10150PH = 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	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	150	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	10	А
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	120	А
Storage temperature range	T <sub>stg</sub>	-45℃ to +150℃	$^{\circ}$ C
Maximum operating junction temperature	TJ	150	$^{\circ}$ C

# **Thermal Characteristics**

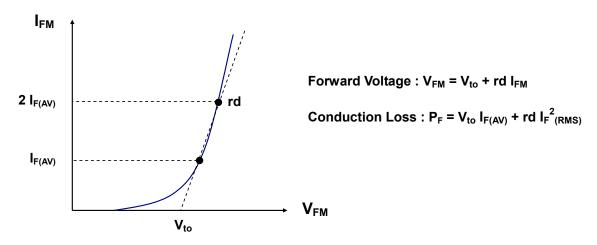
Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	$R_{\text{th(j-c)}}$	4.0	°C/W

## **Electrical Characteristics**

Characteristic	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Peak forward voltage drop	V <sub>FM</sub> <sup>(1)</sup>	I <sub>FM</sub> = 10A	T <sub>j</sub> =25℃	-	0.80	0.88	V
			T <sub>j</sub> =125℃	-	0.75	0.78	V
Reverse leakage current	I <sub>RM</sub> <sup>(1)</sup>	$V_R = V_{RRM}$	T <sub>j</sub> =25℃	-	-	20	uA
			T <sub>j</sub> =125℃	-	-	20	mA
Junction capacitance	C <sub>j</sub>	$V_R = 4V_{DC}$ , $f=1MHz$		-	220	-	pF

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

To evaluate the conduction losses use the following equation:  $P_F = 0.7 I_{F(AV)} + 0.025 I_{F(RMS)}^2$ 



# **Rating and Characteristic Curves**

Fig. 1) Typical Forward Characteristics

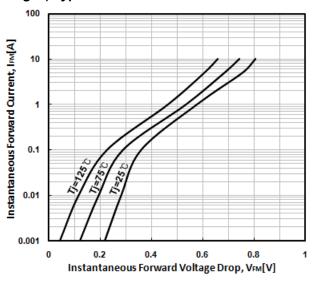


Fig. 3) Maximum Forward Derative Curve

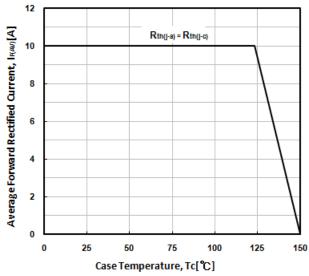


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

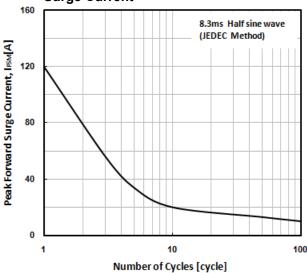


Fig. 2) Typical Reverse Characteristics

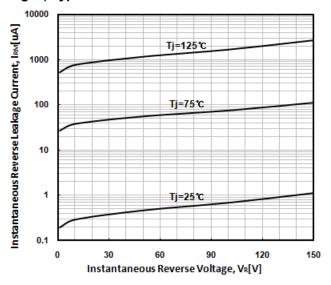


Fig. 4) Forward Power Dissipation

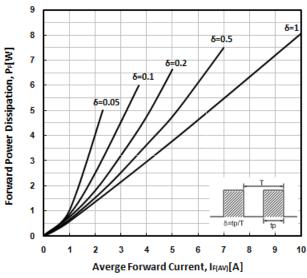
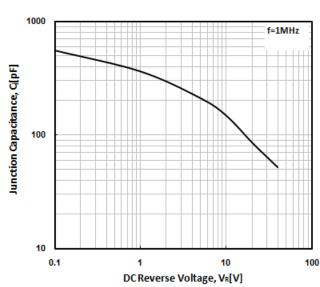
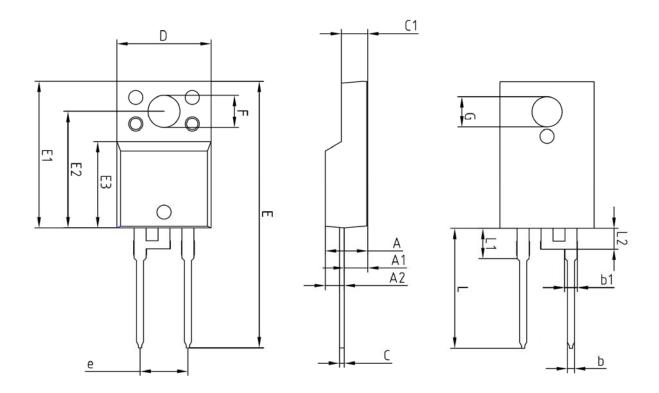


Fig. 6) Typical Junction Capacitance



# **Package Outline Dimension**



		NOTE		
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	 3.46 BS	13.00	
L1				
L2	2.21 BSC			

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