

**Schottky Barrier Rectifier** 

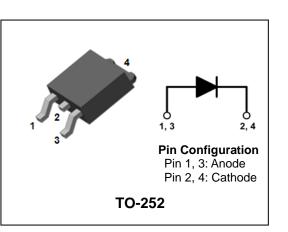
### HIGH VOLTAGE SCHOTTKY RECTIFIER

#### Features

- Low forward voltage drop
- Low power loss and High efficiency
- Low leakage current
- High surge capability
- Halogen-free component and RoHS compliant device

#### **Applications**

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



#### **Product Characteristics**

I <sub>F(AV)</sub>	10A
V <sub>RRM</sub>	150V
$V_{FM}$ at 125 $^\circ\!$	0.78V
I <sub>FSM</sub>	120A

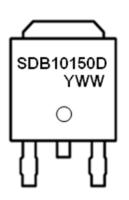
#### Description

The SDB10150D 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
SDB10150D	SDB10150D	TO-252	Tape & Reel

#### **Marking Information**



SDB10150D = Specific Device Code YWW = Year & Week Code Marking -. Y = Year Code -. WW = Week 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	A
Storage temperature range	T <sub>stg</sub>	-45℃ to +150℃	°C
Maximum operating junction temperature	TJ	150	°C

#### **Thermal Characteristics**

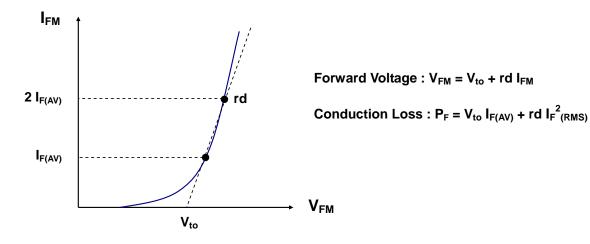
Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	R <sub>th(j-c)</sub>	4.0	°C/W

#### **Electrical Characteristics**

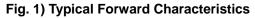
Characteristic	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Dook forward valtage drop	V <sub>FM</sub> <sup>(1)</sup>	1 - 104	<b>T</b> j <b>=25</b> ℃	-	0.80	0.88	V
Peak forward voltage drop	VFM	I <sub>FM</sub> = 10A	Tj=125℃	-	0.75	0.78	V
	I <sub>RM</sub> <sup>(1)</sup>	(1) $V_R = V_{RRM}$	<b>T</b> j <b>=25</b> ℃	-	-	20	uA
Reverse leakage current	IRM		T <sub>j</sub> =125℃	-	-	20	mA
Junction capacitance	C <sub>j</sub>	$V_R = 4V_{DC}$ , f=1MHz		-	220	-	pF

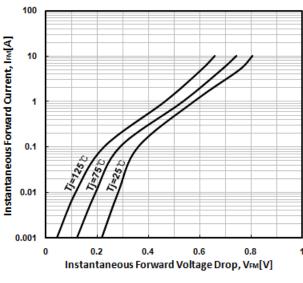
**Note :** (1) Pulse test :  $t_P \leq 380 \ \mu$ s, Duty cycle  $\leq 2\%$ 

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

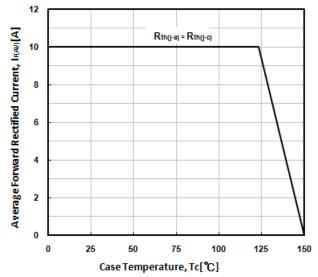


#### **Rating and Characteristic Curves**

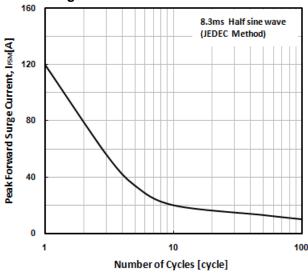












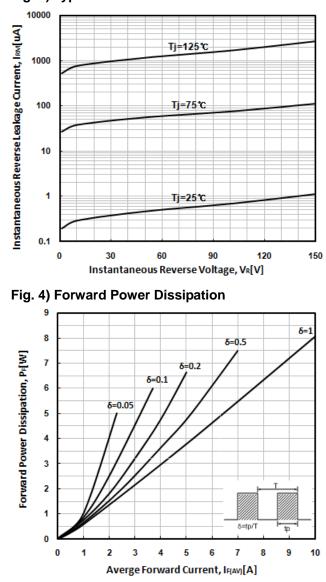
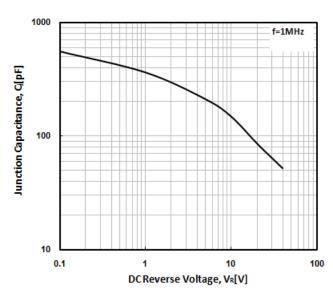


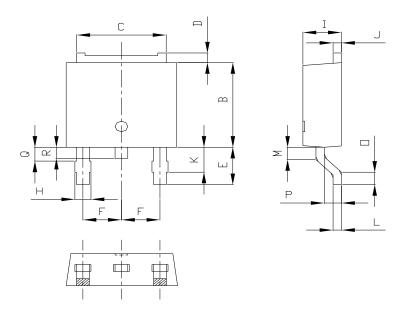
Fig. 2) Typical Reverse Characteristics

Fig. 6) Typical Junction Capacitance



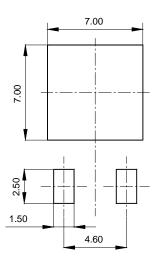
KSD-D6O005-001

### Package Outline Dimension



		MILLIMETEE		
SYMBOL	MINIMUM		MAXIMUM	NOTE
А	6.40	6.60	6.80	
В	5.90	6.10	6.30	
C	5.04	5.34	5.64	
D	0.50	0.70	0.90	
E	2.50	2.70	2.90	
F	2.10	2.30	2.50	
Н		0.96 MAX		
I	2.20	2.30	2.40	
J	0.40	0.50	0.60	
K	1.60	1.80	2.00	
L	0.40	0.50	0.60	
М	0.81	0.91	1.01	
0	0.80	0.90	1.00	
Ρ	0.90	1.00	1.10	
Q	0.95 MAX			
R	0.60	0.80	1.00	

### \* Recommended Land Pattern [unit: mm]



The AUK Corp. products are intended for the use as components in general electronic equipment (Office and communication equipment, measuring equipment, home appliance, etc.).

Please make sure that you consult with us before you use these AUK Corp. products in equipments which require high quality and / or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, transportation, combustion control, all types of safety device, etc.). AUK Corp. cannot accept liability to any damage which may occur in case these AUK Corp. products were used in the mentioned equipments without prior consultation with AUK Corp..

Specifications mentioned in this publication are subject to change without notice.