

## HIGH VOLTAGE SCHOTTKY RECTIFIER

### Features

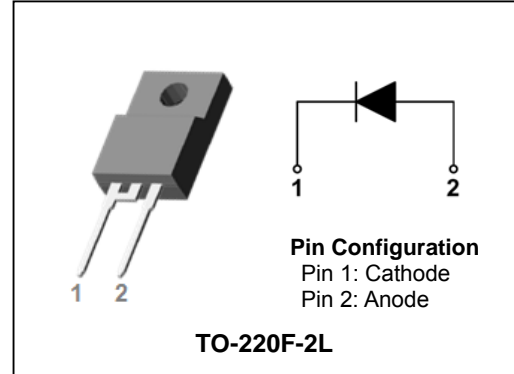
- Low forward voltage drop and leakage current
- Low power loss and High efficiency
- Guard-ring for overvoltage protection
- High surge capability
- Full lead (Pb)-free and RoHS compliant device

### Applications

- Secondary rectification for Adapter of Note-PC, LCD monitor, etc.
- DC-DC Converter
- Secondary rectification
- Reverse current protection

### Description

The SDB15100PH is low forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies output rectification and resonant power converters.



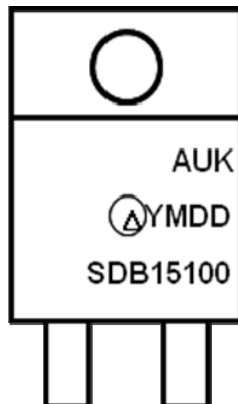
### Product Characteristics

$I_{F(AV)}$	15A
$V_{RRM}$	100V
$V_{FM}$ at 125 °C	0.70V
$I_{FSM}$	210A

### Ordering Information

Device	Marking Code	Package	Packaging
SDB15100PH	SDB15100	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  
 SDB15100 = 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	$V_{RRM}$ $V_{RWM}$ $V_R$	100	V
Maximum average forward rectified current	$I_{F(AV)}$	15	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	210	A
Storage temperature range	$T_{stg}$	-45°C to +150°C	°C
Maximum operating junction temperature	$T_J$	150	°C

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	$R_{th(j-c)}$	4.5	°C/W

## Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Peak forward voltage drop	$V_{FM}^{(1)}$	$I_{FM} = 15A$	$T_J = 25^\circ C$	-	-	0.85	V
			$T_J = 125^\circ C$	-	-	0.70	V
Reverse leakage current	$I_{RM}^{(1)}$	$V_R = V_{RRM}$	$T_J = 25^\circ C$	-	-	0.2	mA
			$T_J = 125^\circ C$	-	-	30	mA
Junction capacitance	$C_j$	$V_R = 5V_{DC}, f=1MHz$	-	280	-	pF	

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

## Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

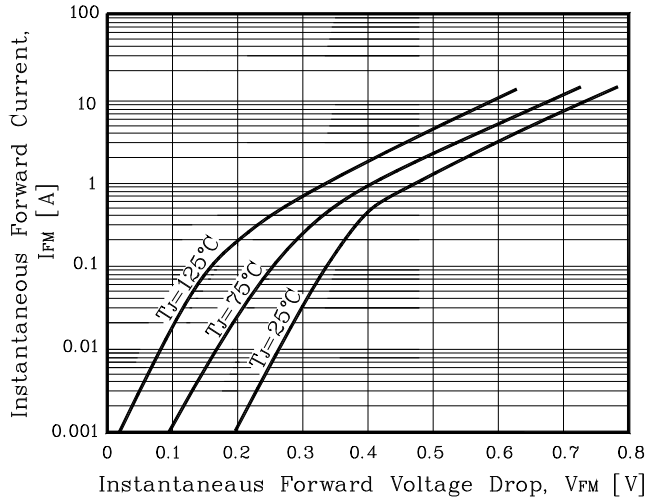


Fig. 2) Typical Reverse Characteristics

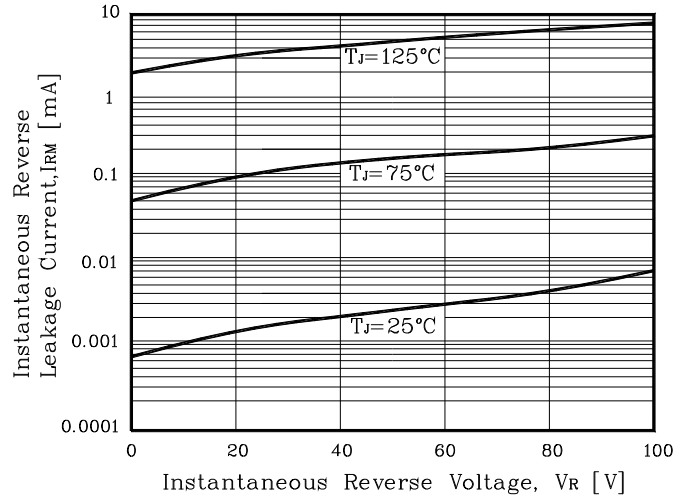


Fig. 3) Maximum Forward Derivative Curve

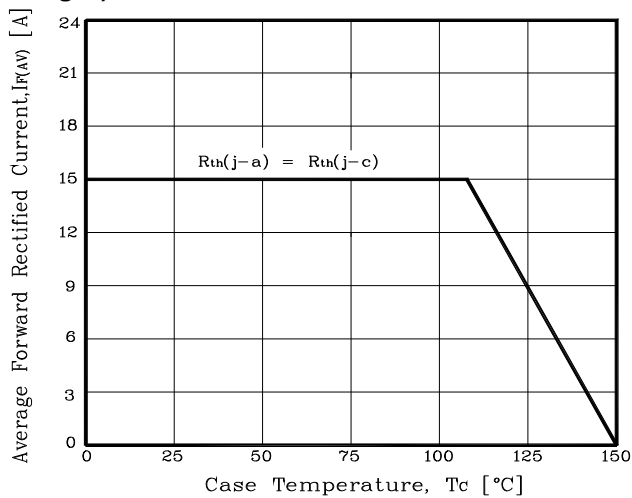


Fig. 4) Forward Power Dissipation

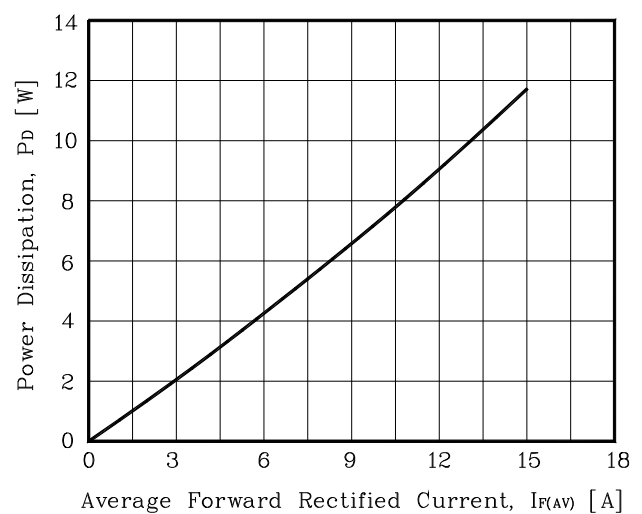


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

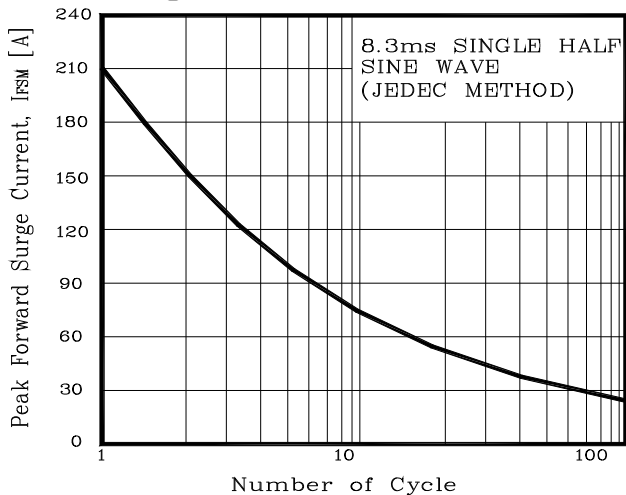
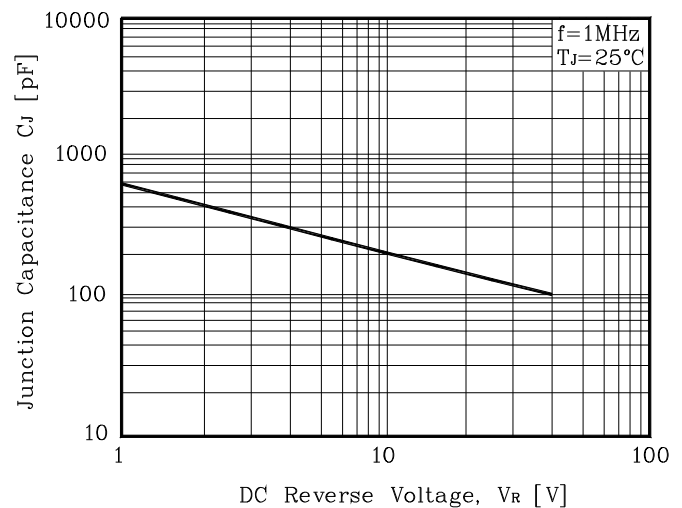
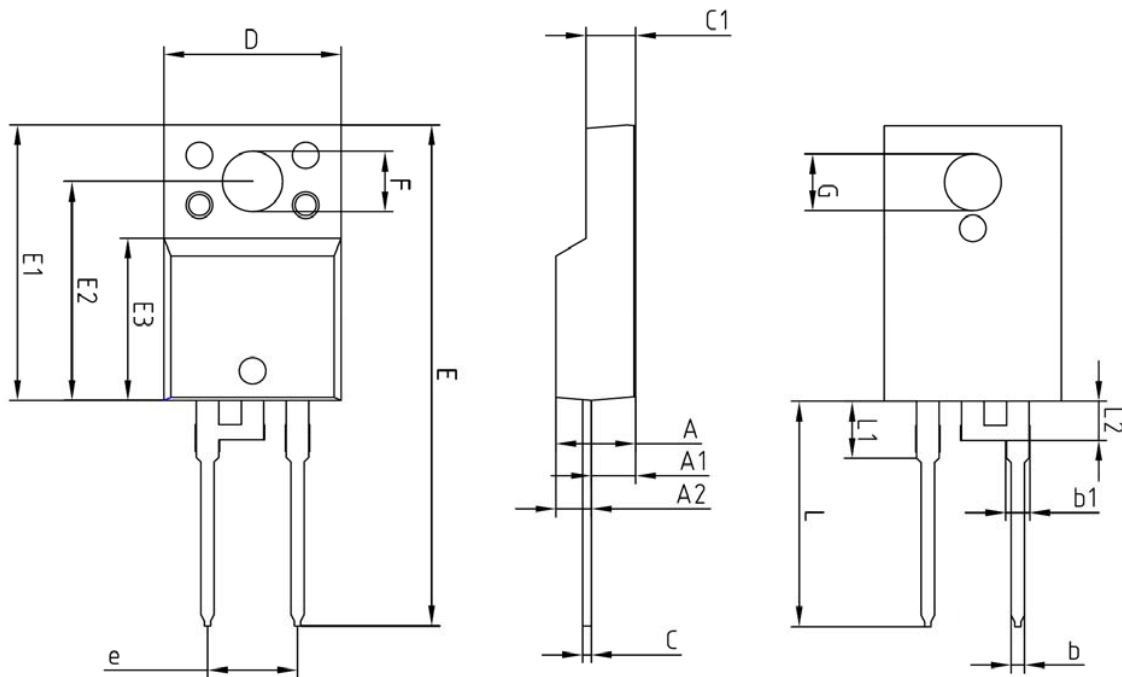


Fig. 6) Typical Junction Capacitance



## Package Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	—	—	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	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	
e	5.08 BSC			
L	12.40	—	13.00	
L1	3.46 BSC			
L2	2.21 BSC			

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