

LOW FORWARD VOLTAGE SCHOTTKY RECTIFIER

Features

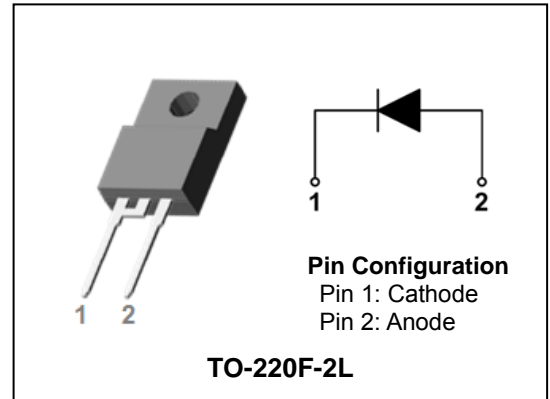
- Low forward voltage drop and leakage current
- Low power loss and High efficiency
- Guard-ring for overvoltage protection
- High surge capability
- Full lead (Pb)-free and RoHS compliant device

Applications

- Power supply - Output rectification
- Converter
- Free-wheeling diode
- Reverse battery protection
- Power inverters

Description

The SDB1560PH Schottky rectifier has been optimized for very low forward voltage drop with moderate leakage. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.



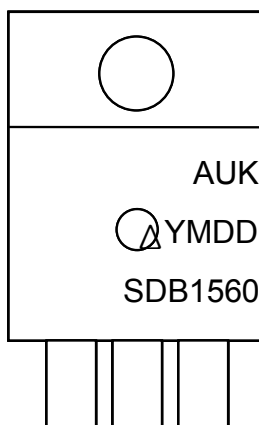
Product Characteristics

$I_{F(AV)}$	15A
V_{RRM}	60V
V_{FM} at 125°C	0.58V
I_{FSM}	210A

Ordering Information

Device	Marking Code	Package	Packaging
SDB1560PH	SDB1560	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
 SDB1560 = 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	60	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	$V_{FM}^{(1)}$	$I_{FM} = 15A$	$T_j = 25^\circ C$	-	-	0.62	V
			$T_j = 125^\circ C$	-	-	0.58	V
Reverse leakage current	$I_{RM}^{(1)}$	$V_R = V_{RRM}$	$T_j = 25^\circ C$	-	-	0.5	mA
			$T_j = 125^\circ C$	-	-	50	mA
Junction capacitance	C_j	$V_R = 5V_{DC}, f=1MHz$	-	-	720	pF	

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

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

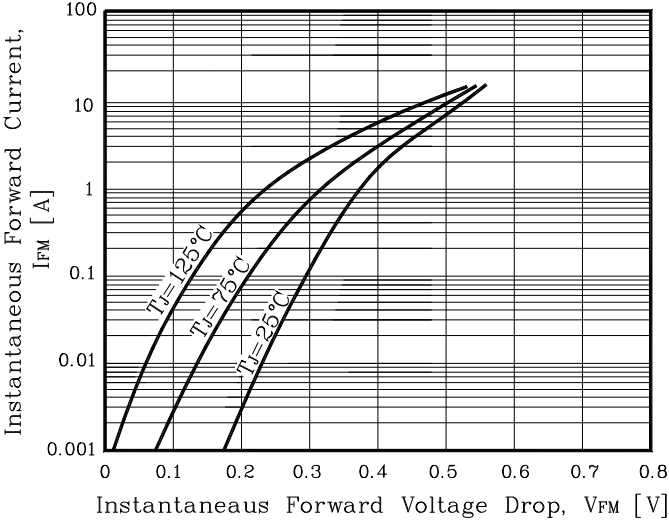


Fig. 2) Typical Reverse Characteristics

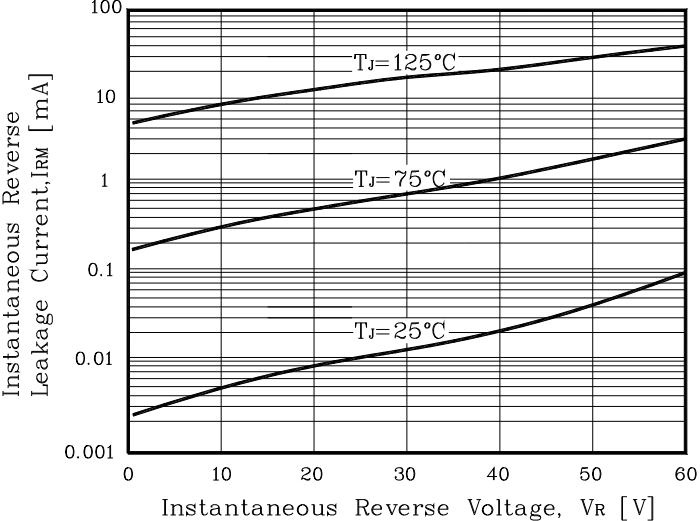


Fig. 3) Maximum Forward Derivative Curve

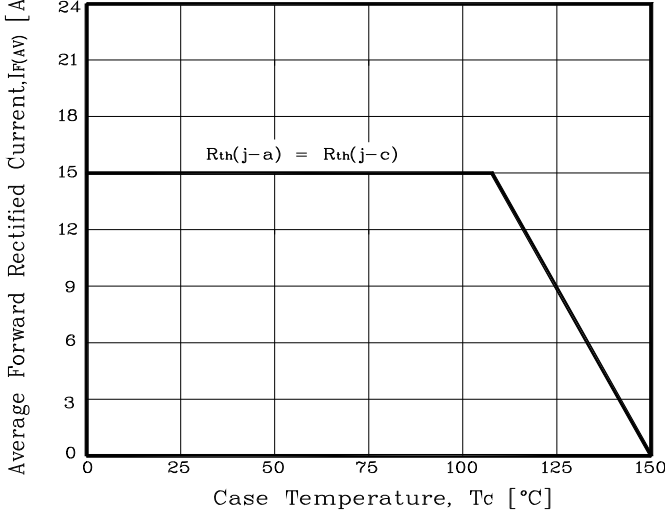


Fig. 4) Forward Power Dissipation

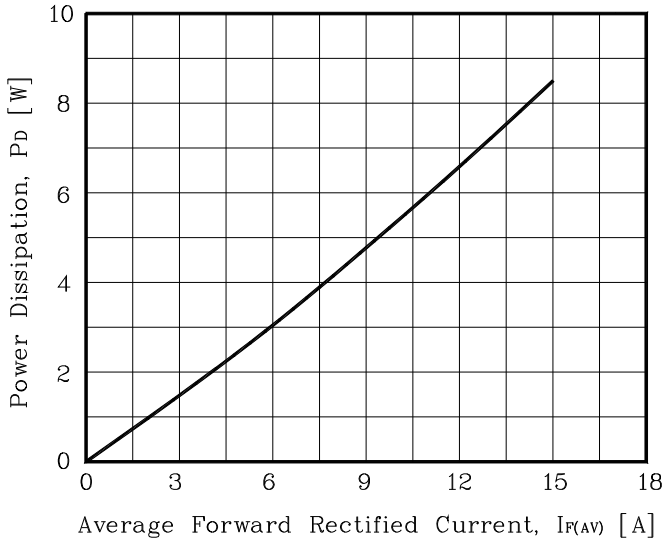


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

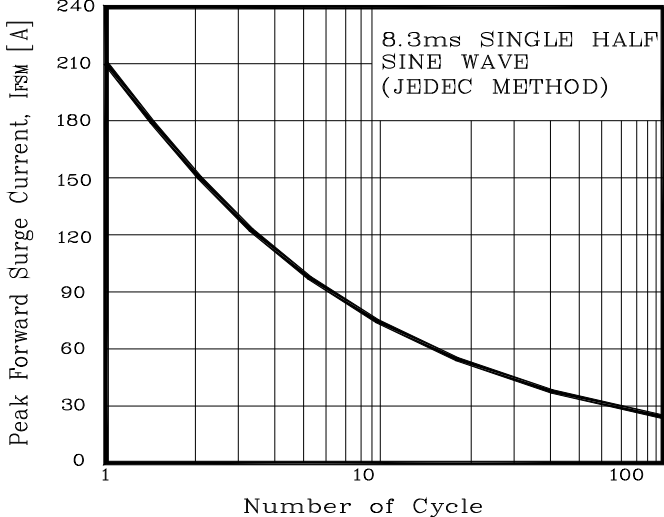
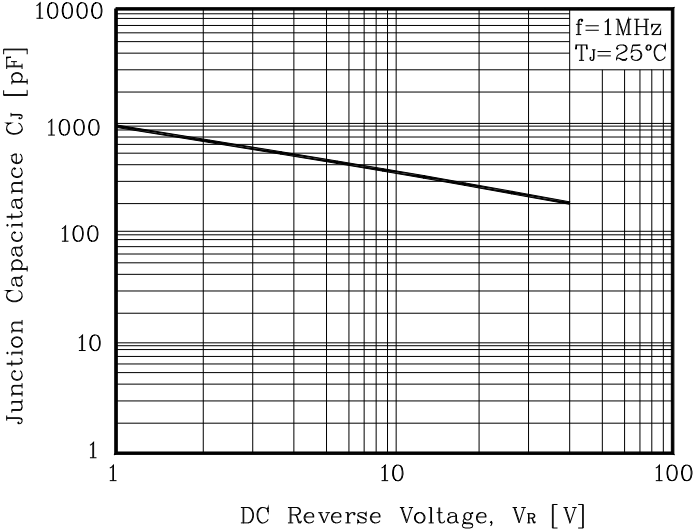
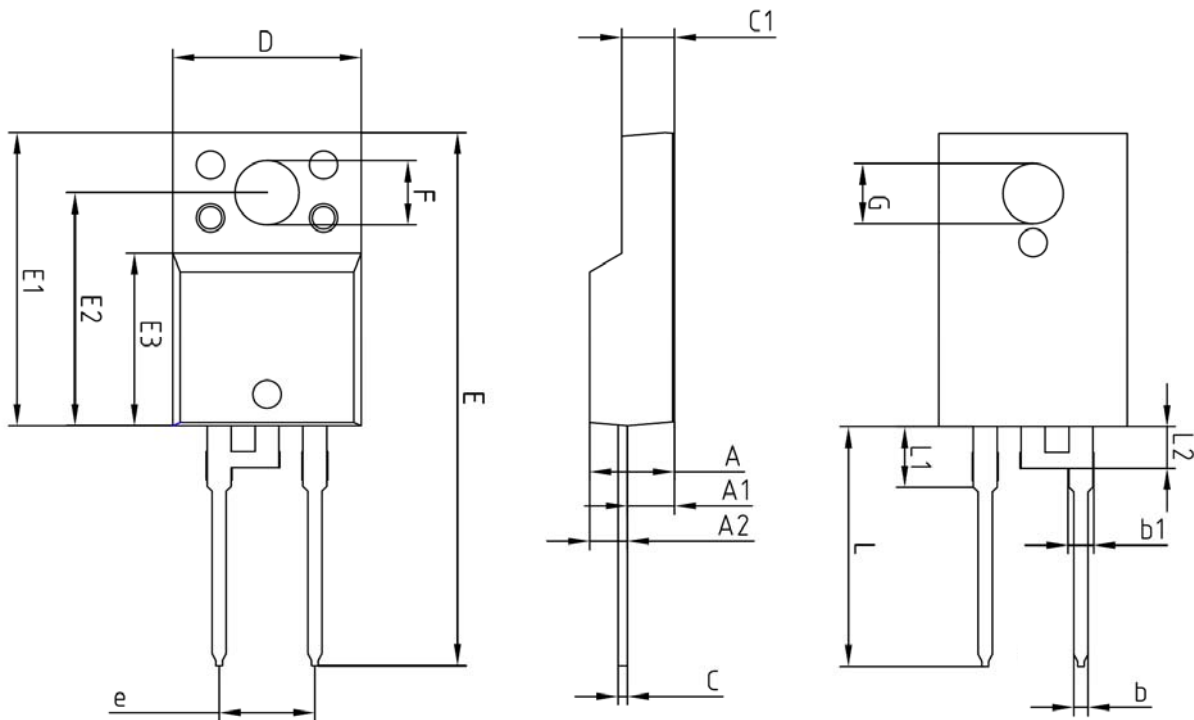


Fig. 6) Typical Junction Capacitance



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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