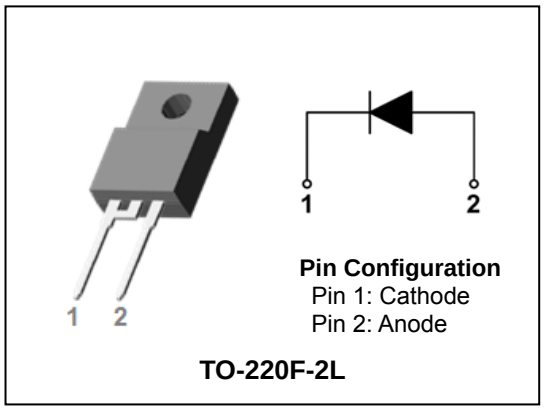
80V, 10A POWER SCHOTTKY RECTIFIER

Features

- Low forward voltage drop
- Low power loss and High efficiency
- Low leakage current
- High surge capacity
- Full lead (Pb)-free 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

$I_{F(AV)}$	**10A**
V_{RRM}	**80V**
V_{FM} **at 125℃**	**0.65V (Typ.)**
I_{FSM}	**150A**

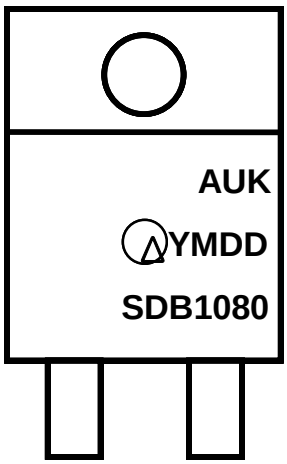
Description

The SDB1080PH is suited for Switch Mode Power Supply and high frequency DC to DC converters. This device is especially intended for use in low voltage, high frequency inverters, free wheeling and polarity protection applications.

Ordering Information

Device	Marking Code	Package	Packaging
SDB1080PH	SDB1080	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
SDB1080 = 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	80	V
Maximum average forward rectified current	per diode	$I_{F(AV)}$	10	A
	total device		20	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		I_{FSM}	150	A
Storage temperature range		T_{stg}	-45℃ to +150℃	℃
Maximum operating junction temperature		T_j	150	℃

Thermal Characteristics

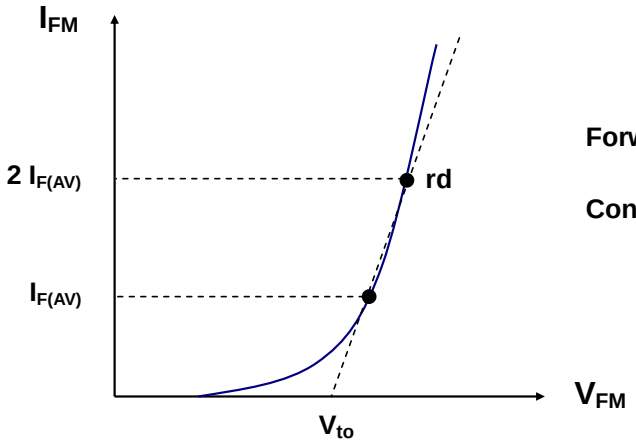
Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	$R_{th(j-c)}$	4.0	℃/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	V_{FM} (1)	I_{FM} = 10A	T_j=25℃	-	0.70	0.80	V
			T_j=125℃	-	0.65	0.72	V
Reverse leakage current	I_{RM} (1)	$V_R = V_{RRM}$	T_j=25℃	-	-	0.6	mA
			T_j=125℃	-	-	100	mA
Junction capacitance	C_j	V_R = 1V_{DC}, f=1MHz		-	550	-	pF

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

To evaluate the conduction losses use the following equation: $P_F = 0.36 \times I_{F(AV)} + 0.0335\ I_F{}^2{}_{(RMS)}$



Forward Voltage : $V_{FM} = V_{to} + rd\ I_{FM}$

Conduction Loss : $P_F = V_{to}\ I_{F(AV)} + rd\ I_F{}^2{}_{(RMS)}$

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

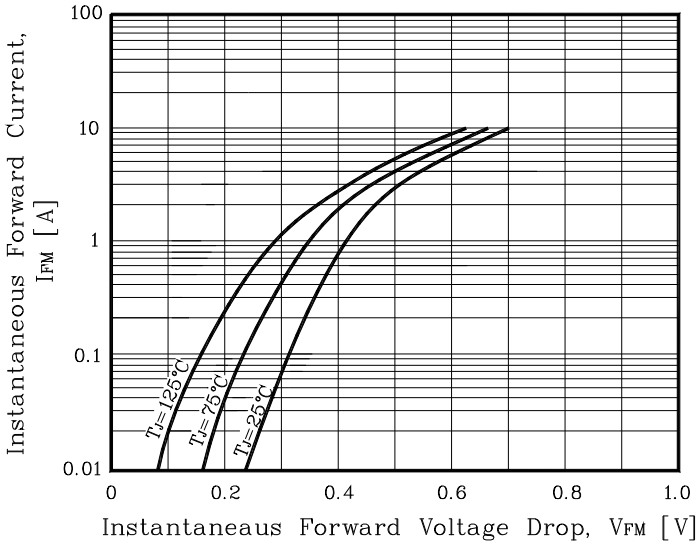


Fig. 2) Typical Reverse Characteristics

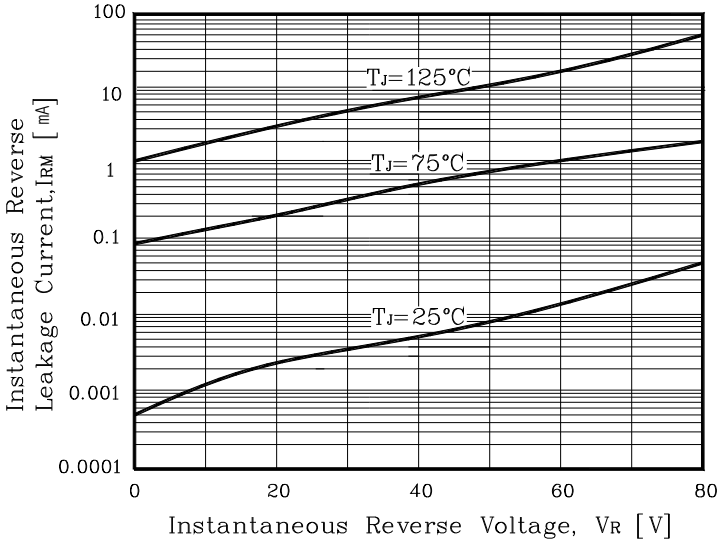


Fig. 3) Maximum Forward Derative Curve

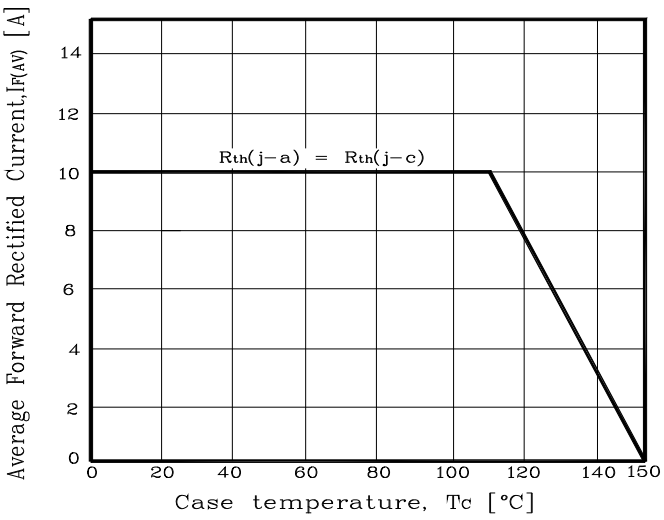


Fig. 4) Forward Power Dissipation

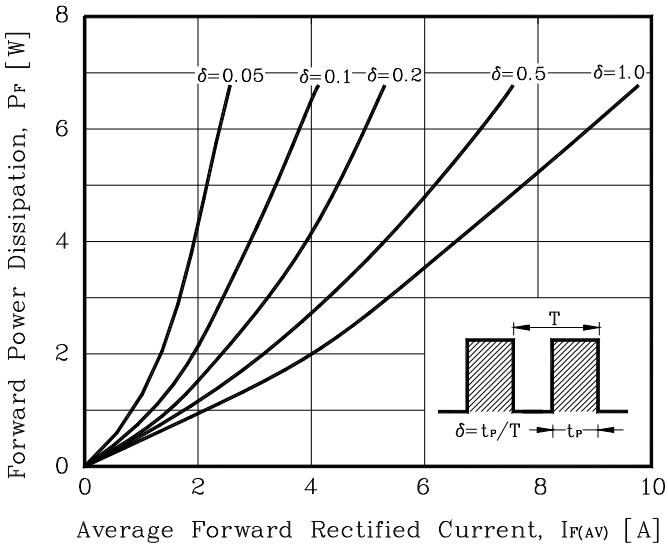


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

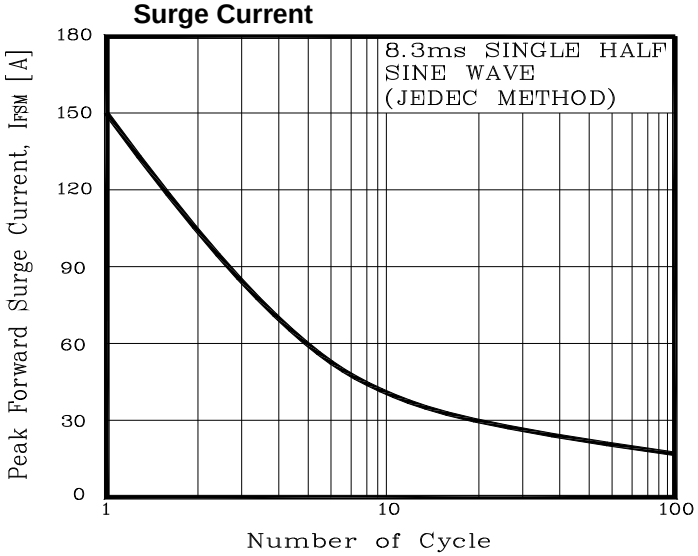
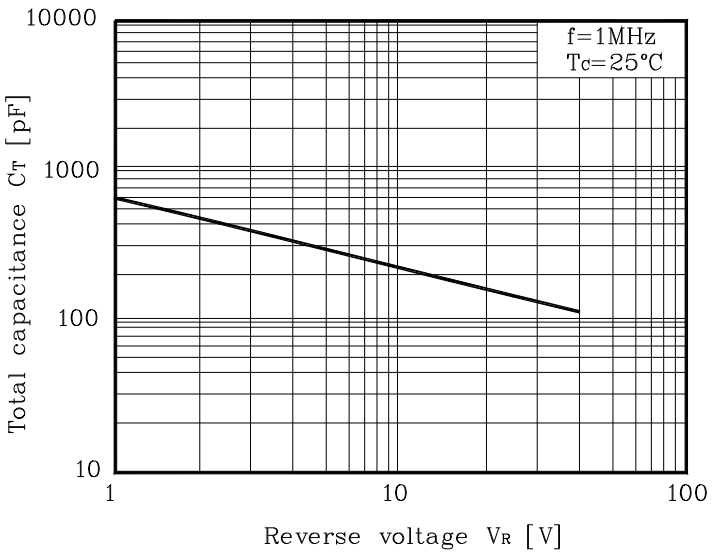
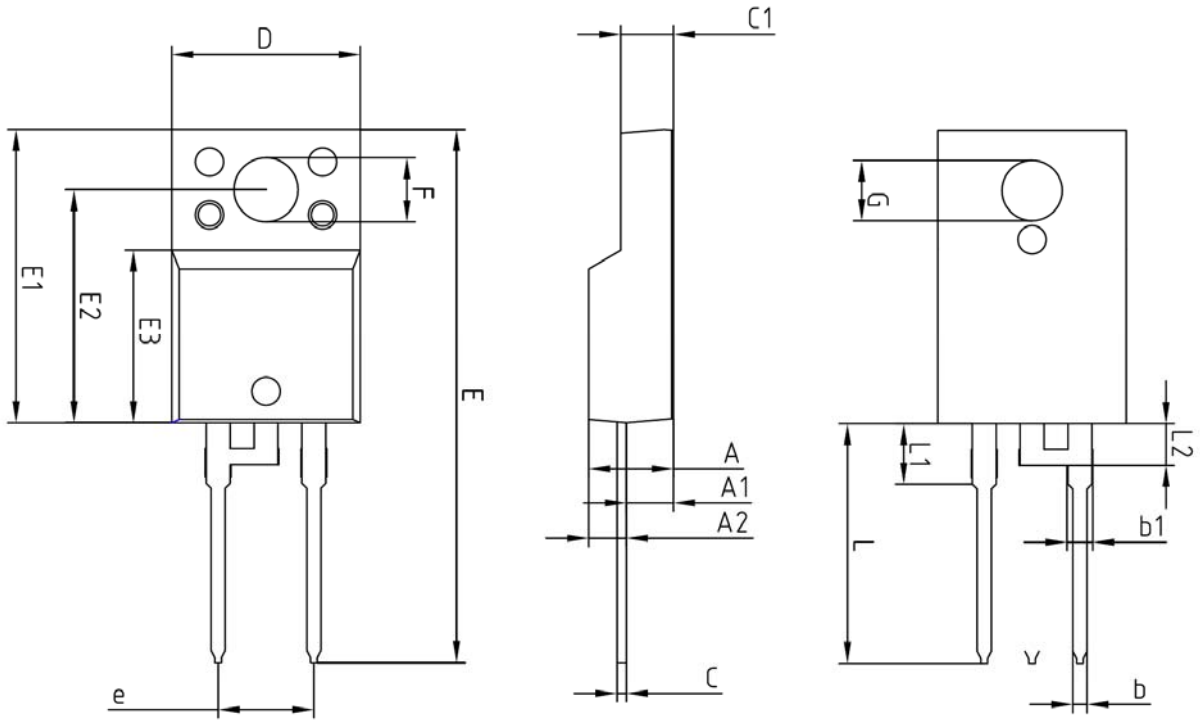


Fig. 6) Typical Junction Capacitance



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			

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.