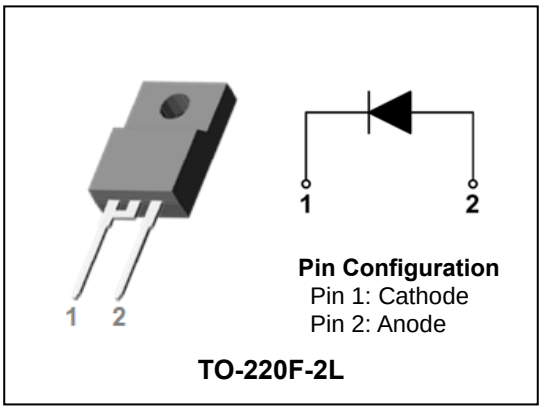
60V, 10A POWER SCHOTTKY RECTIFIER

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}	60V
V_{FM} at 125℃	0.55V
I_{FSM}	150A

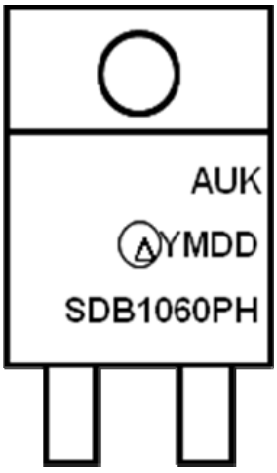
Description

The SDB1060PH 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
SDB1060PH	SDB1060PH	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
SDB1060PH = 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	$I_{F(AV)}$	10	A
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}	-55℃ to +150℃	℃
Maximum operating junction temperature	T_J	150	℃

Thermal Characteristics

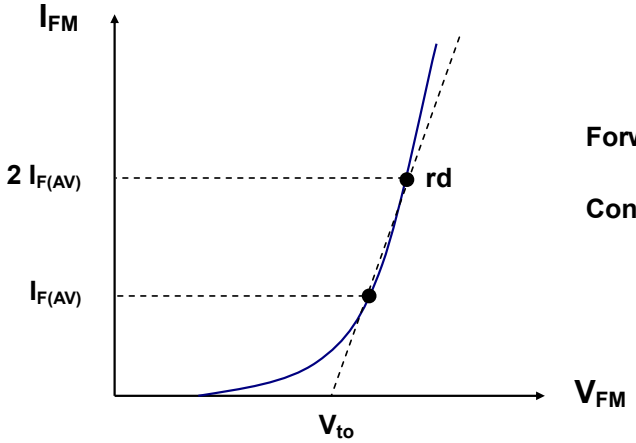
Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	$R_{th(j-c)}$	4.0	℃/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	V_{FM} (1)	I_{FM} = 10A	T_j=25℃	-	0.55	0.65	V
			T_j=125℃	-	0.50	0.55	V
Reverse leakage current	I_{RM} (1)	$V_R = V_{RRM}$	T_j=25℃	-	-	1.5	mA
			T_j=125℃	-	-	200	mA
Junction capacitance	C_j	V_R = 4V_{DC}, f=1MHz		-	400	-	pF

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

To evaluate the conduction losses use the following equation: $P_F = 0.35\ I_{F(AV)} + 0.019\ I_{F}^{2}{}_{(RMS)}$



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

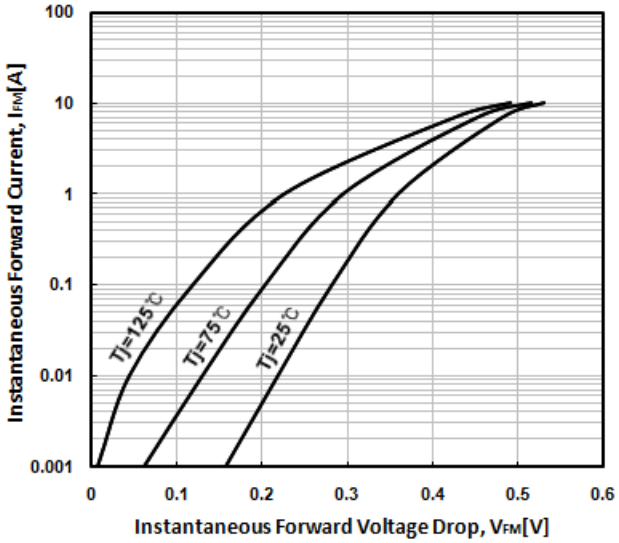


Fig. 2) Typical Reverse Characteristics

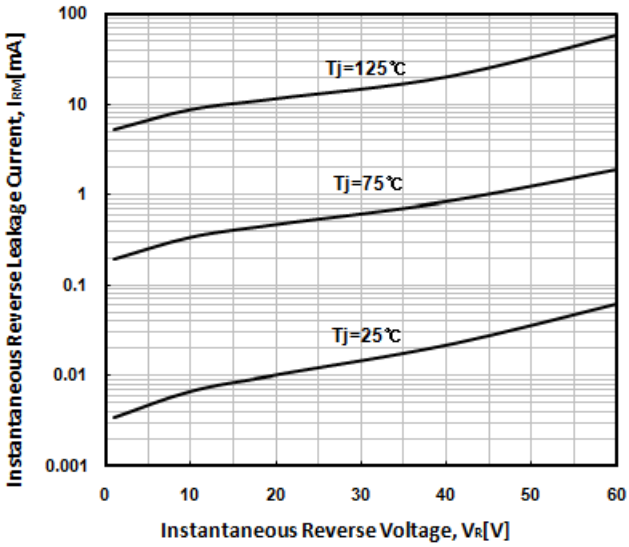


Fig. 3) Maximum Forward Derative Curve

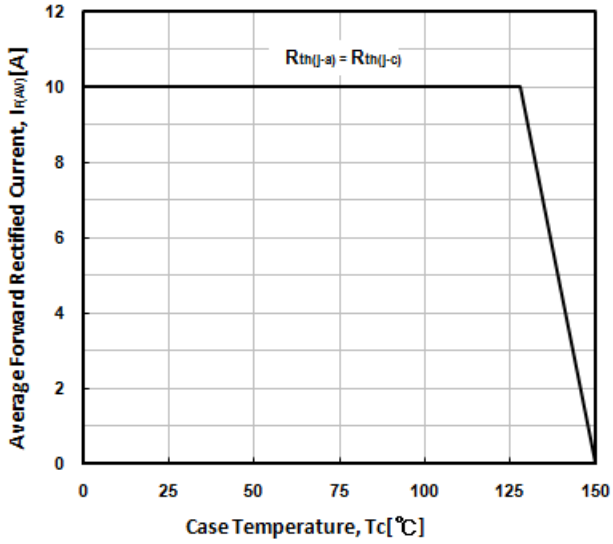


Fig. 4) Forward Power Dissipation

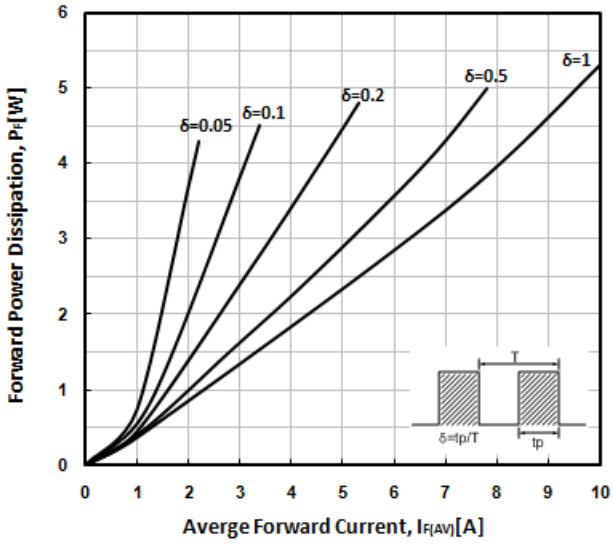


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

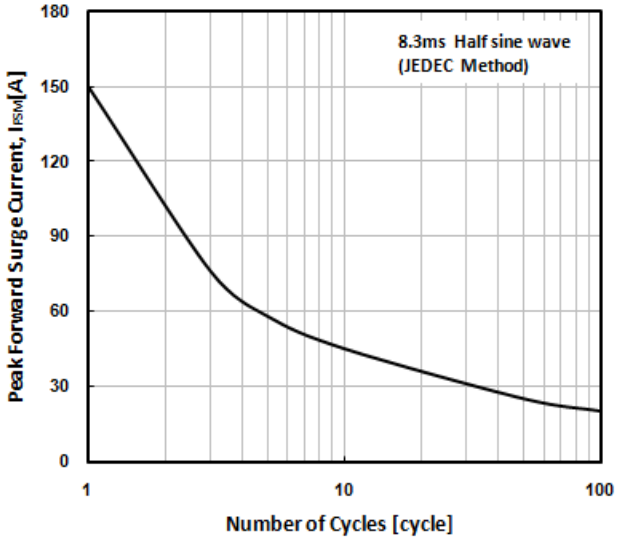
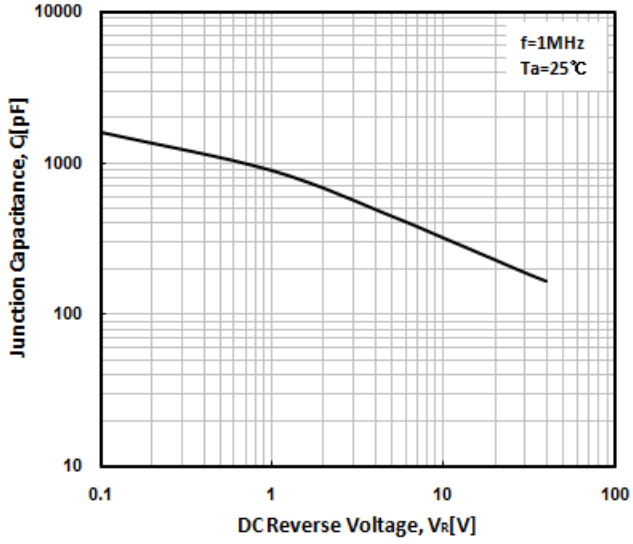
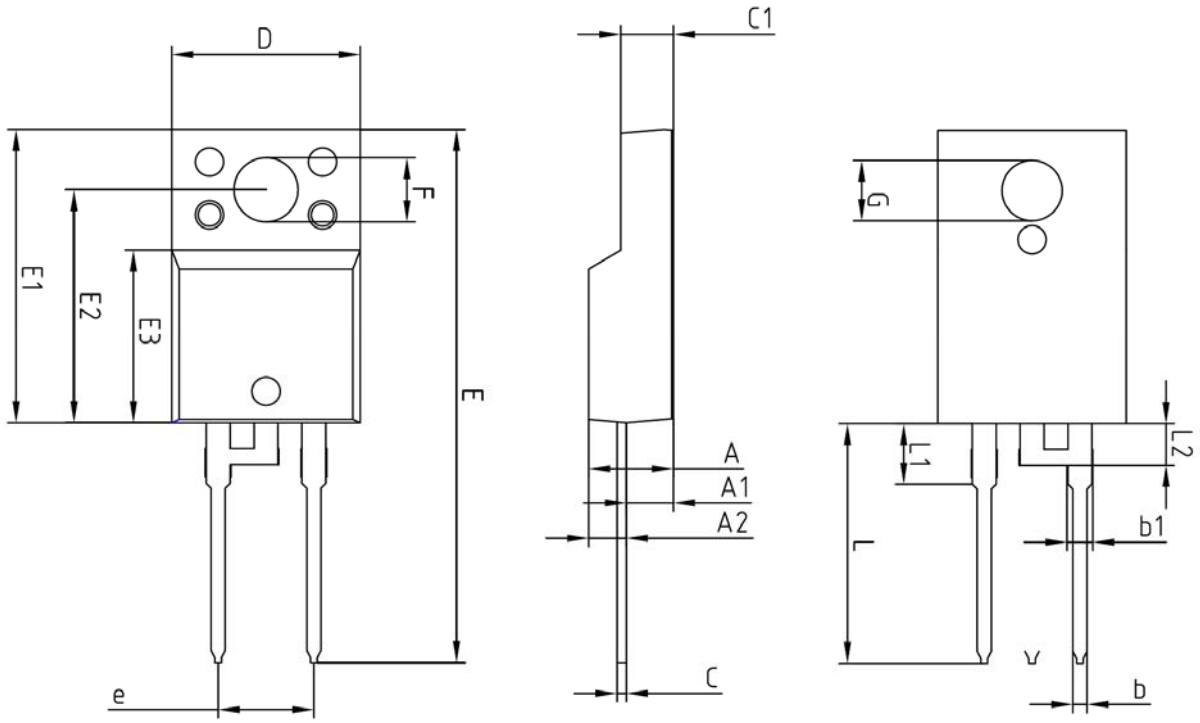


Fig. 6) Typical Junction Capacitance



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			

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