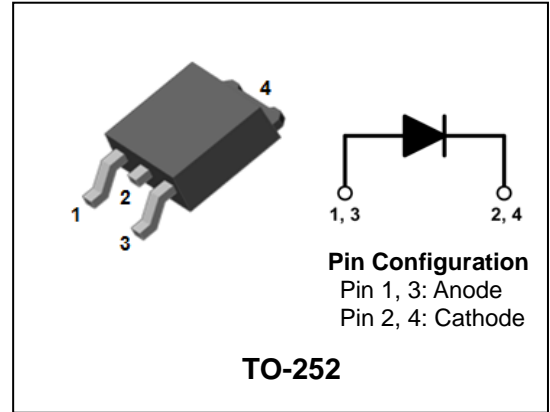


**LOW FORWARD DROP VOLTAGE SCHOTTKY RECTIFIER**
**Features**

- Low forward voltage drop
- Low power loss and High efficiency
- Low leakage current
- High surge capability
- “Green” device and RoHS compliant device


**Applications**

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

**Product Characteristics**

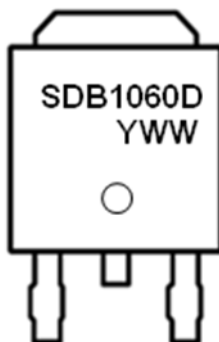
$I_{F(AV)}$	10A
$V_{RRM}$	60V
$V_{FM}$ at 125°C	0.55V
$I_{FSM}$	120A

**Description**

The SDB1060D 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
SDB1060D	SDB1060D	TO-252	Tape & Reel

**Marking Information**


SDB1060D = 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	$V_{RRM}$ $V_{RWM}$ $V_R$	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	$I_{FSM}$	120	A
Storage temperature range	$T_{stg}$	-45°C to +150°C	°C
Maximum operating junction temperature	$T_J$	150	°C

## Thermal Characteristics

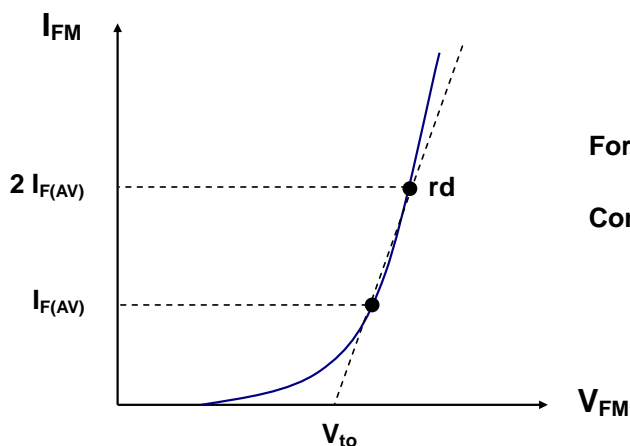
Characteristic	Symbol	Value	Unit
Maximum thermal resistance junction to case	$R_{th(j-c)}$	4.0	°C/W

## Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Peak forward voltage drop	$V_{FM}^{(1)}$	$I_{FM} = 10A$	$T_j = 25^\circ C$	-	0.55	0.65	V
			$T_j = 125^\circ C$	-	0.50	0.55	V
Reverse leakage current	$I_{RM}^{(1)}$	$V_R = V_{RRM}$	$T_j = 25^\circ C$	-	-	1.5	mA
			$T_j = 125^\circ C$	-	-	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  $\leq 2\%$

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



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

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

## Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

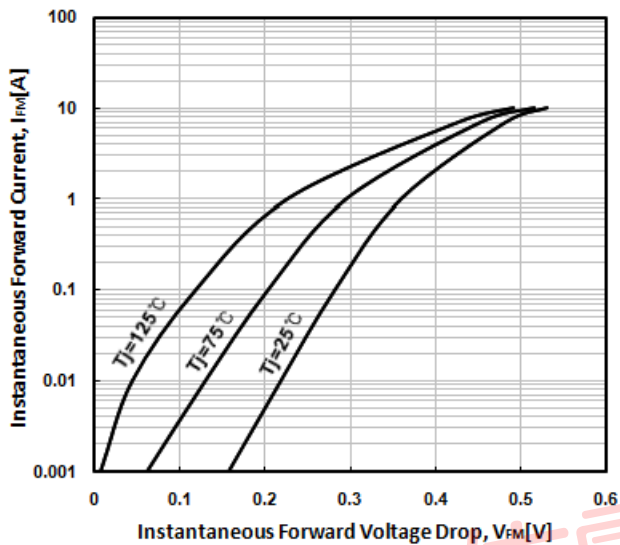


Fig. 2) Typical Reverse Characteristics

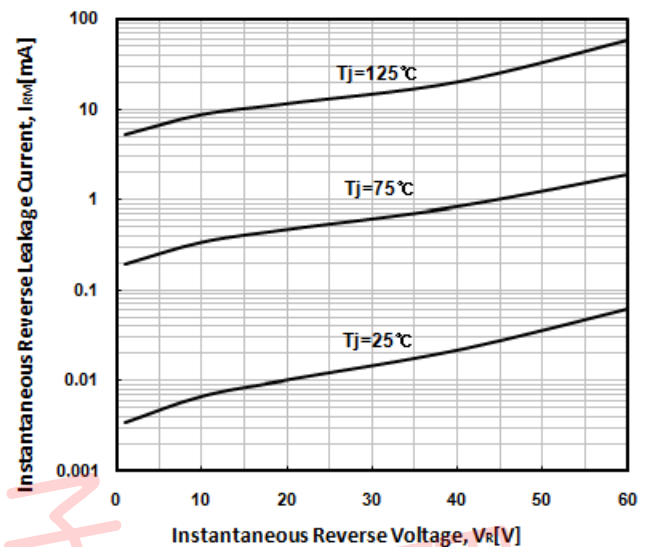


Fig. 3) Maximum Forward Derivative Curve

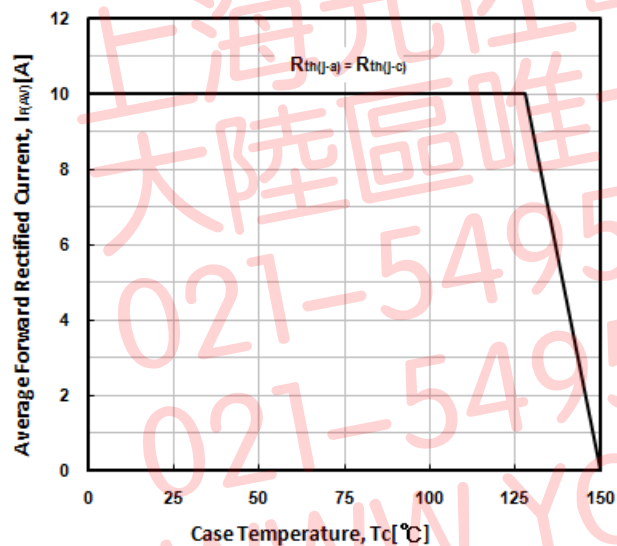


Fig. 4) Forward Power Dissipation

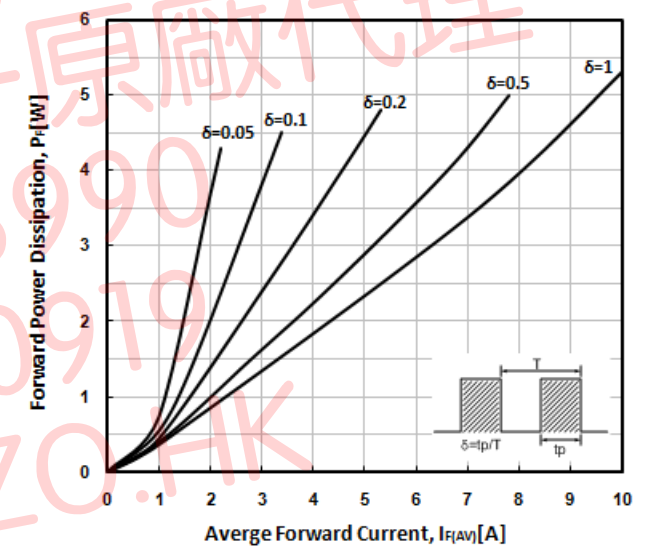


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

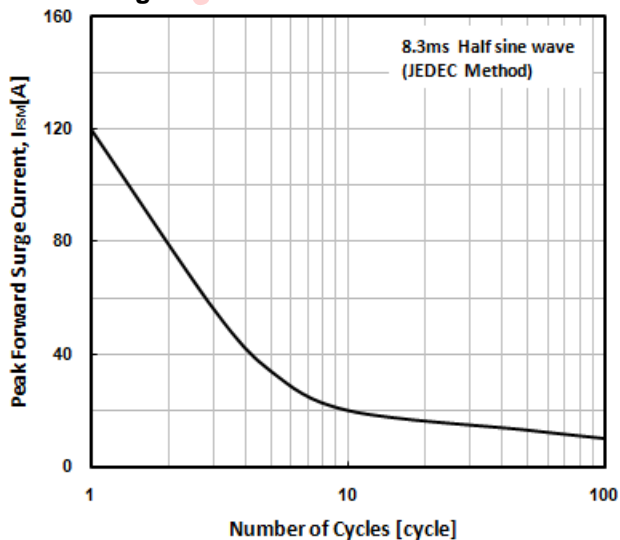


Fig. 6) Typical Junction Capacitance

