

Schottky Barrier Rectifier

General Description

The SDB160G surface mounted Schottky rectifier has been designed for applications requiring low forward drop and very small foot prints on PC boards. Typical applications are in disk drives, switching power supplies, converters, free-wheeling diodes, battery charging, and reverse battery protection.



SOD-123

Features and Benefits

- Low forward drop voltage and low reverse leakage current
- Low power rectified
- “Green” device and RoHS compliant device
- Available in full lead (Pb)-free device

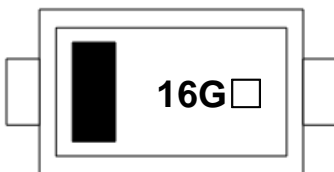
Applications

- Free-wheeling applications
- Switching mode power supplies applications

Ordering Information

| Part Number | Marking Code | Package | Packaging |
|-------------|--------------|---------|-------------|
| SDB160G | 16G□ | SOD-123 | Tape & Reel |

Marking Information

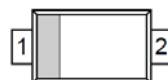
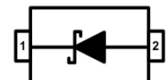


16G = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

Pinning Information

| Pin | Description | Simplified Outline | Graphic Symbol |
|-----|-------------|--|---|
| 1 | Cathode |  |  |
| 2 | Anode | | |

Absolute Maximum Ratings (T_{amb}=25°C, Unless otherwise specified)

| Characteristic | Symbol | Ratings | 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)} | 1 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode | I _{FSM} | 12 | A |
| Maximum operating junction temperature | T _J | 150 | °C |
| Storage temperature range | T _{stg} | -55 ~ 150 | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|------------------------------------|-------|------|
| Maximum thermal resistance Junction to ambient | R _{th(j-a)} ³⁾ | 250 | °C/W |

Electrical Characteristics (T_{amb}=25°C, Unless otherwise specified)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------------|------------------------------|------------------------------|------|------|------|------|
| Reverse breakdown voltage | V _{(BR)R} | I _R =1.5mA | 60 | - | - | V |
| Forward drop voltage | V _F ¹⁾ | I _F =1A | - | - | 0.55 | V |
| Reverse leakage current | I _R ²⁾ | V _R =60V | - | - | 50 | μA |
| Total capacitance | C _T | V _R = 10V, f=1MHz | - | 45 | - | pF |

¹⁾ Pulse test: t_p≤380us, Duty cycle≤2%

²⁾ Pulse test: t_p≤5ms, Duty cycle≤2%

³⁾ Device mounted on glass epoxy PCB (recommanderable minimum solder land)

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristic

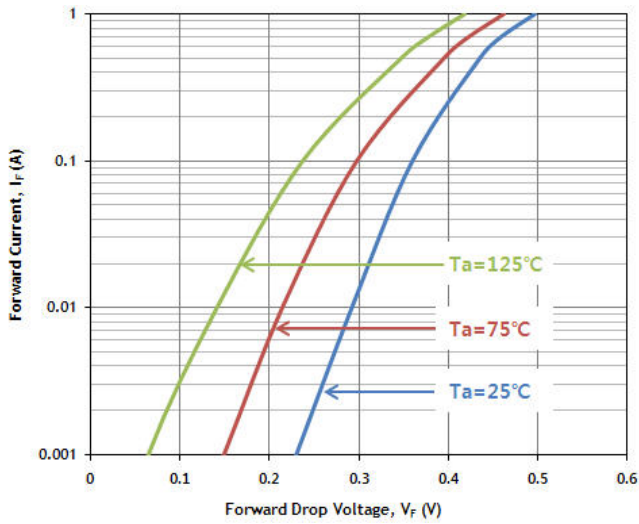


Fig. 2) Typical Reverse Characteristic

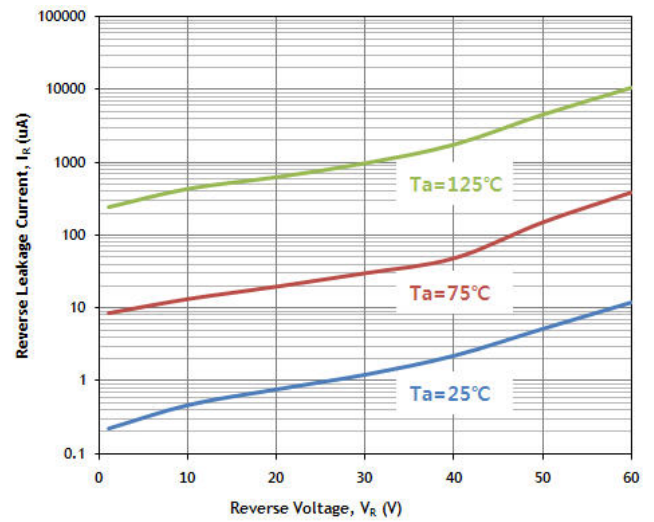


Fig. 3) Total Capacitance vs. Reverse Voltage

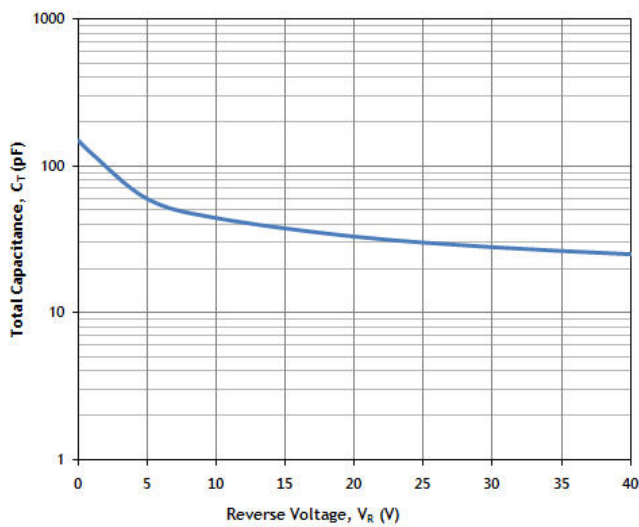
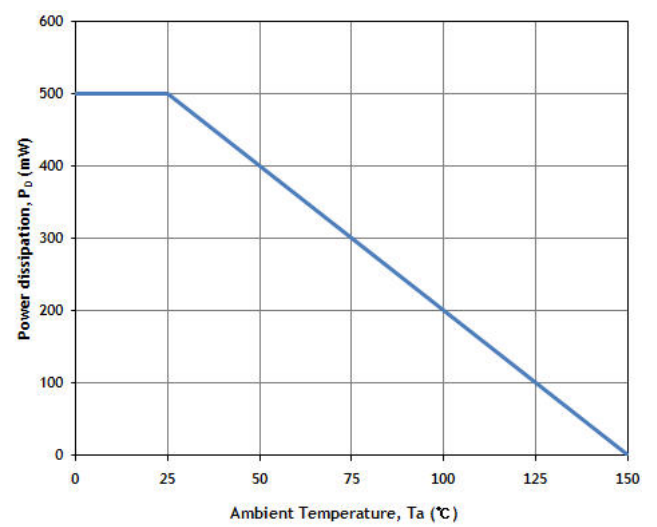
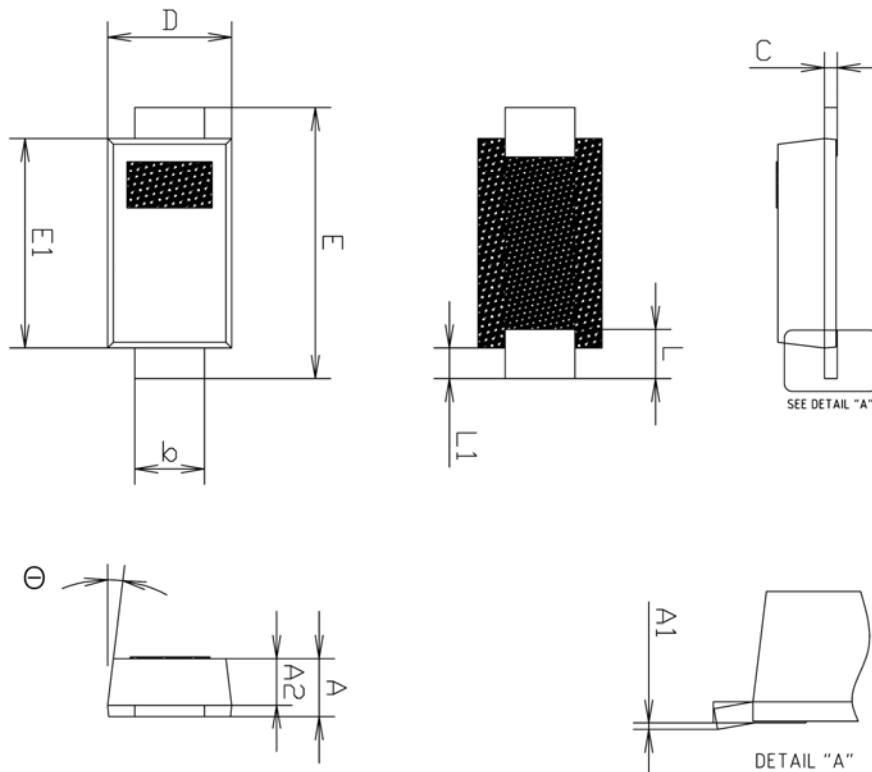


Fig. 4) Power Dissipation vs. Ambient Temperature

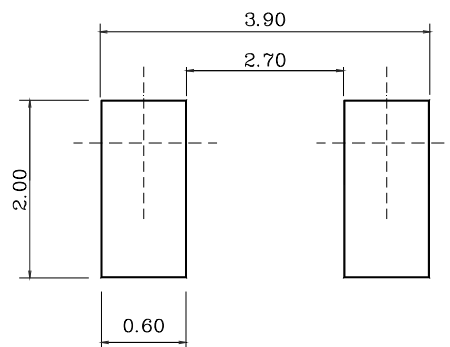


Package Outline Dimensions (Unit : mm)



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | 0.70 | 0.750 | 0.80 | |
| A1 | 0.00 | — | 0.10 | |
| A2 | 0.55 | 0.60 | 0.65 | |
| b | 0.85 | 0.92 | 0.99 | |
| c | 0.12 | 0.17 | 0.22 | |
| D | 1.50 | 1.60 | 1.70 | |
| E | 3.30 | 3.50 | 3.70 | |
| E1 | 2.60 | 2.70 | 2.80 | |
| L | 0.49 | 0.64 | 0.79 | |
| L1 | 0.30 | 0.40 | 0.50 | |
| Θ | 4° | — | 10° | |

※ Recommend PCB solder land (Unit : mm)



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.