

Schottky Barrier Rectifier

General Description

The SDB1200 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-106

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 |
|-------------|--------------|---------|-------------|
| SDB1200 | 1A20 | SOD-106 | Tape & Reel |

Marking Information



1A20 = Specific Device Code

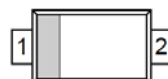
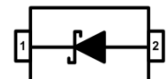
YWW = Year & Week Code Marking

-. Y = Year Code

-. WW = Week Code

■ = Color band denote cathode

Pinning Information

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

Absolute Maximum Ratings ($T_{amb}=25^{\circ}\text{C}$, 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 | 200 | 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} | 75 | 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⁾ | 145 | °C/W |

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit | |
|-------------------------|---------------------|--------------------------------|---------------------------|------|------|------|----|
| Forward drop voltage | V_F ¹⁾ | $I_F=1\text{A}$ | - | 0.75 | 0.86 | V | |
| Reverse leakage current | I_R ²⁾ | $V_R=200\text{V}$ | $T_J=25^{\circ}\text{C}$ | - | - | 0.5 | mA |
| | | | $T_J=125^{\circ}\text{C}$ | - | - | 10 | mA |
| Total capacitance | C_T | $V_R=5\text{V}, f=1\text{MHz}$ | - | 27 | - | pF | |

¹⁾ Pulse test: $t_P \leq 380\mu\text{s}$, Duty cycle $\leq 2\%$

²⁾ Pulse test: $t_P \leq 5\text{ms}$, Duty cycle $\leq 2\%$

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

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristic

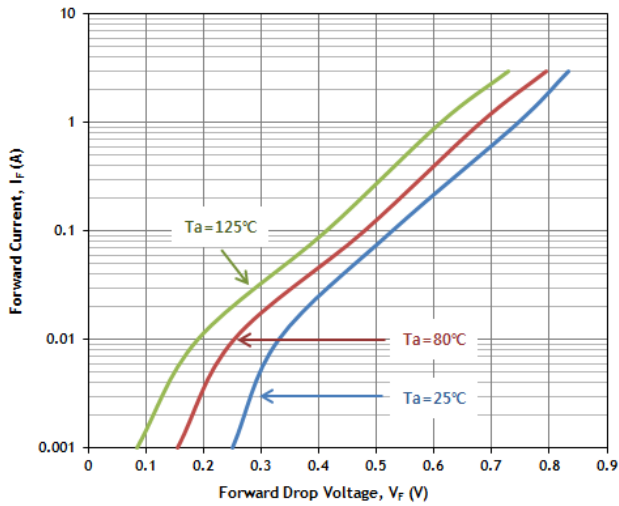


Fig. 2) Typical Reverse Characteristic

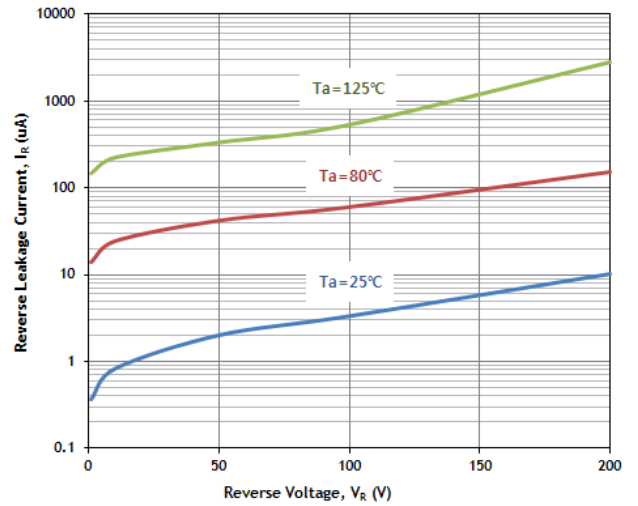


Fig. 3) Total Capacitance vs. Reverse Voltage

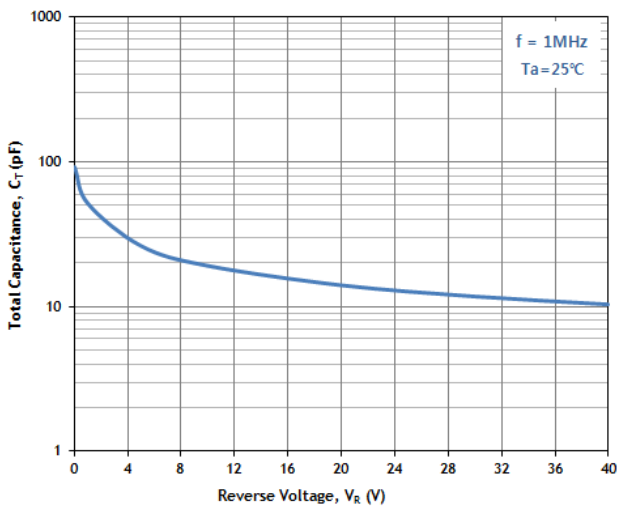
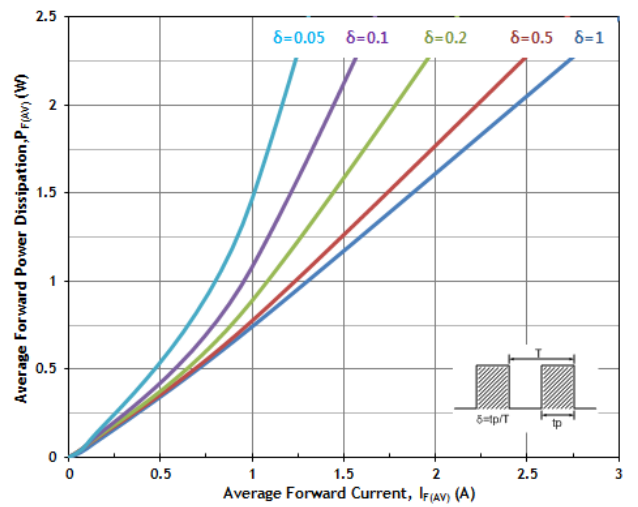
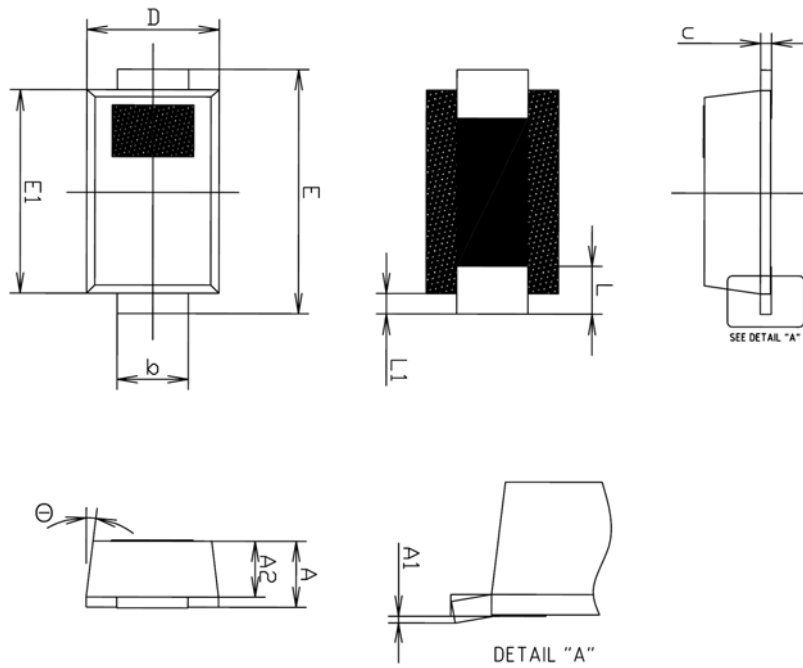


Fig. 4) Average Forward Power Dissipation vs. Average Forward Current

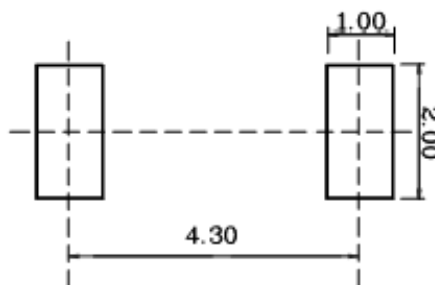


Package Outline Dimensions



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | 1.25 | 1.30 | 1.35 | |
| A1 | 0.00 | — | 0.10 | |
| A2 | 1.05 | 1.10 | 1.15 | |
| b | 1.35 | 1.42 | 1.49 | |
| c | 0.17 | 0.22 | 0.27 | |
| D | 2.50 | 2.60 | 2.70 | |
| E | 4.60 | 4.80 | 5.00 | |
| E1 | 3.90 | 4.00 | 4.10 | |
| L | 0.79 | 0.94 | 1.09 | |
| L1 | 0.30 | 0.40 | 0.50 | |
| Θ | 4° | — | 10° | |

※ Recommend PCB solder land (Unit: mm)



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