

Dual Common-Cathode Schottky Rectifier

General Description

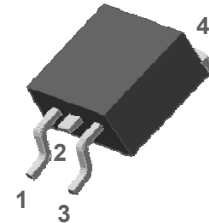
The SDB10D200D2 has two schottky barriers arranged in a common cathode configuration and is ideally suited for a full wave output rectifier in low switching power supplies and DC to DC converters where small size and high reliability are required.

Features and Benefits

- Low forward drop voltage and low leakage current
- Low power loss and high efficiency
- Dual common-cathode rectifier construction
- RoHS compliant device

Applications

- Switching power supply
- Output rectification
- High frequency switching
- DC/DC Converter system

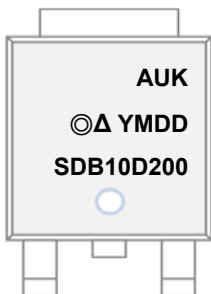

D2-PAK

| Product Characteristics | |
|-------------------------|--------------|
| $I_{F(AV)}$ | 2 X 5A |
| V_{RRM} | 200V |
| V_{FM} at 125°C | 0.72V (Typ.) |
| I_{FSM} | 120A |

Ordering Information

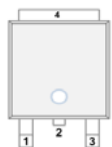
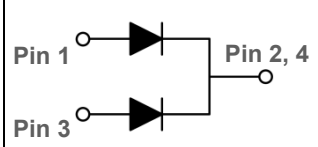
| Part Number | Marking Code | Package | Packaging |
|-------------|--------------|---------|-------------|
| SDB10D200D2 | SDB10D200 | D2-PAK | Tape & Reel |

Marking Information



AUK = Manufacture Logo
© = Management Code of Manufacture
Δ = Control Code of Manufacture
YMDD = Date Code Marking
 -. Y = Year Code
 -. M = Monthly Code
 -. DD = Daily Code
SDB10D200 = Specific Device Code

Pinning Information

| Pin | Description | Simplified Outline | Graphic Symbol |
|------|----------------|--|---|
| 1 | Anode |  |  |
| 2, 4 | Common-Cathode | | |
| 3 | Anode | | |

SDB10D200D2

Absolute Maximum Ratings (Limiting values at 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 | 200 | V |
| Maximum average forward rectified current | per diode | $I_{F(AV)}$ | 5 | A |
| | total device | | 10 | |
| 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 to +150 | °C |
| Maximum operating junction temperature | | T_J | 150 | °C |

Thermal Characteristics

| Characteristic | | Symbol | Ratings | Unit |
|--------------------------------------|--------------|---------------|---------|------|
| Thermal resistance, junction to case | per diode | $R_{th(j-c)}$ | 4.0 | °C/W |
| | total device | | 3.6 | |

Electrical Characteristics

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit | |
|---------------------------|----------------|---------------------------|---------------------|------|------|------|----|
| Peak forward voltage drop | $V_{FM}^{(1)}$ | $I_{FM} = 5A$ | $T_j = 25^\circ C$ | - | 0.85 | 0.95 | V |
| | | | $T_j = 125^\circ C$ | - | 0.72 | 0.76 | V |
| Reverse leakage current | $I_{RM}^{(1)}$ | $V_R = V_{RRM}$ | $T_j = 25^\circ C$ | - | - | 10 | uA |
| | | | $T_j = 125^\circ C$ | - | - | 10 | mA |
| Junction capacitance | C_j | $V_R = 1V_{DC}, f = 1MHz$ | - | 150 | - | pF | |

¹⁾ Pulse test: $t_p \leq 380\mu s$, Duty cycle $\leq 2\%$

²⁾ Pulse test: $t_p \leq 5ms$, Duty cycle $\leq 2\%$

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics (Per diode)

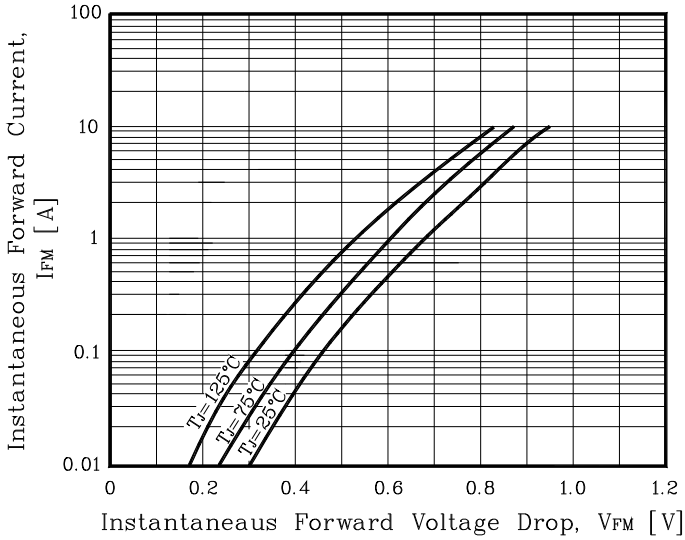


Fig. 2) Typical Reverse Characteristics (Per diode)

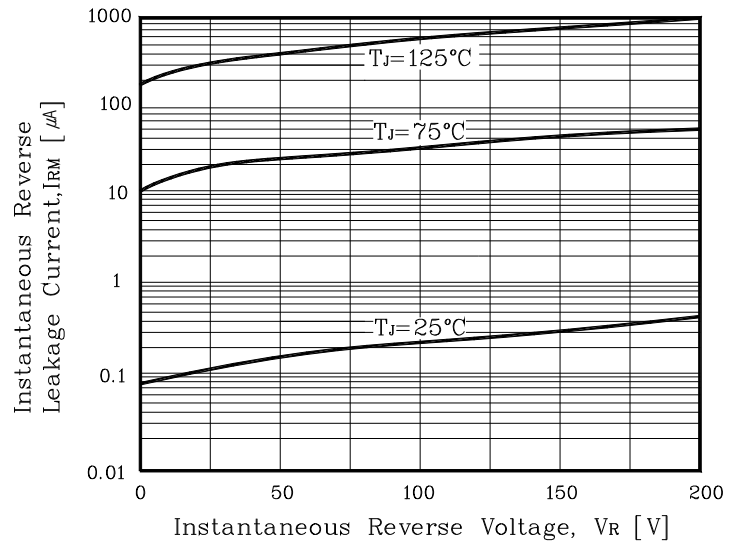


Fig. 3) Maximum Forward Derivative Curve

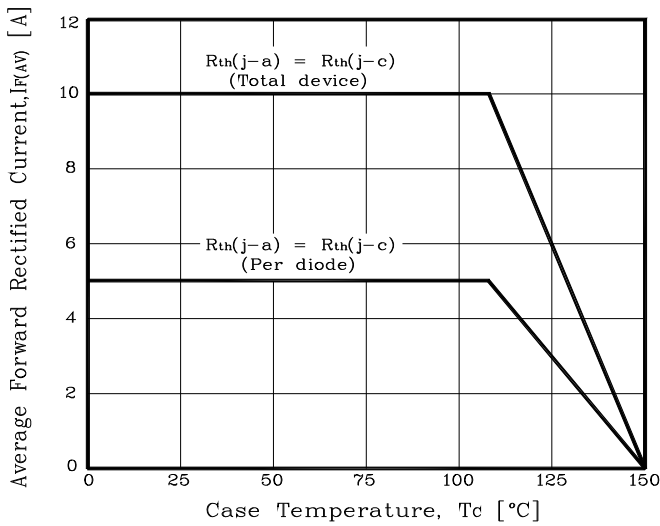


Fig. 4) Forward Power Dissipation (Per diode)

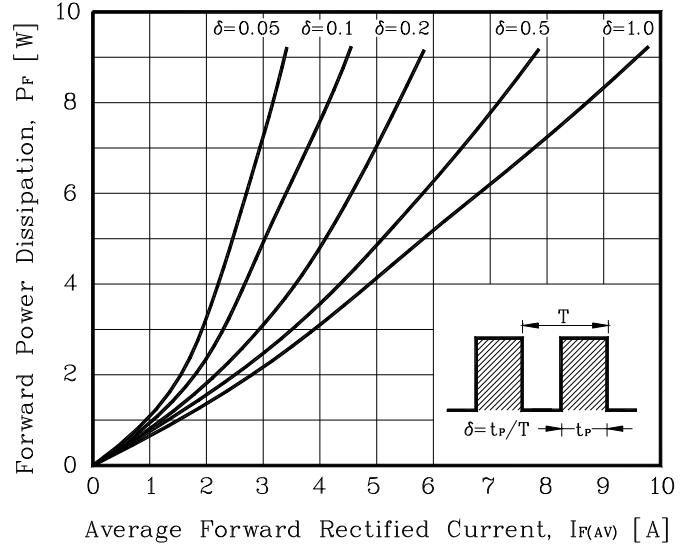


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current (Per diode)

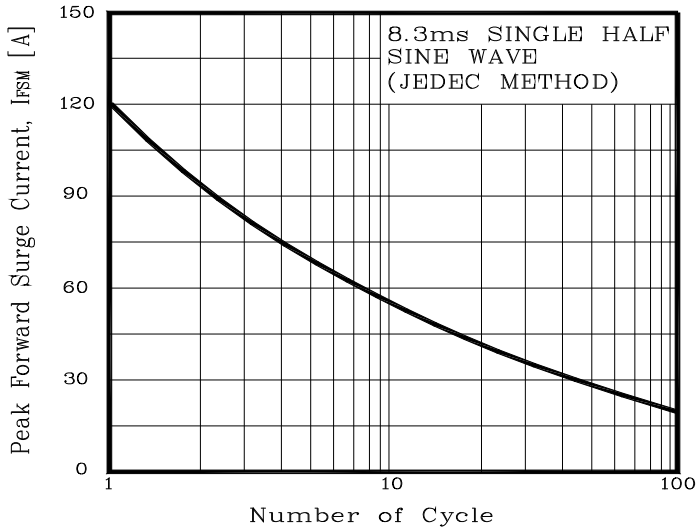
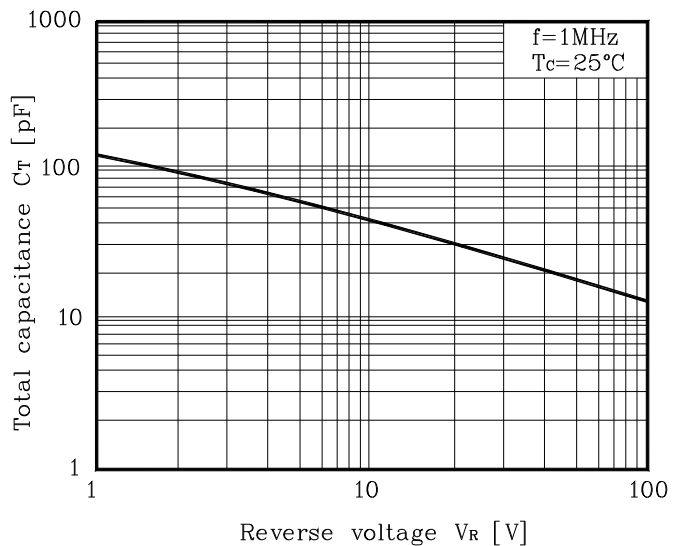
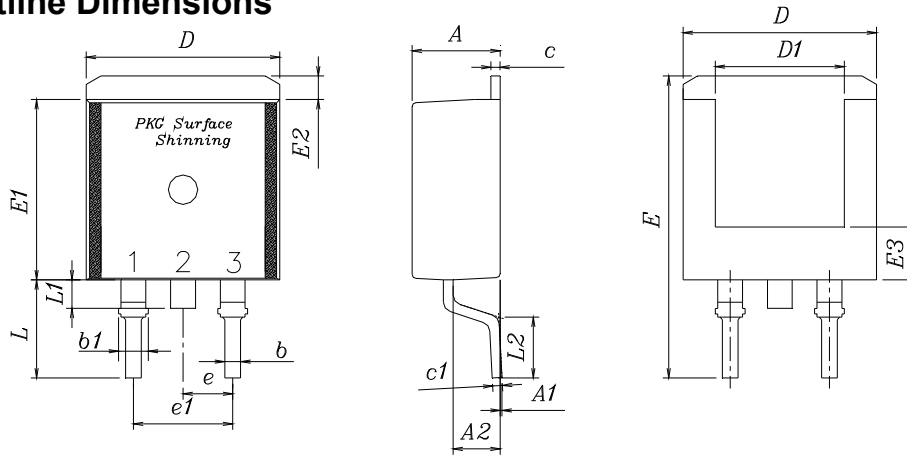


Fig. 6) Typical Junction Capacitance (Per diode)

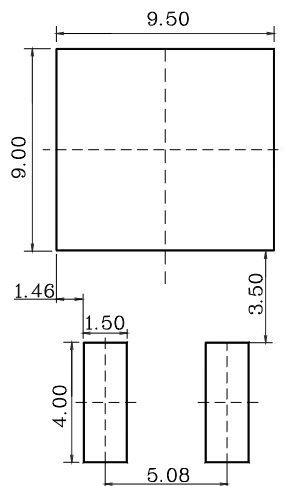


Package Outline Dimensions



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | 4.35 | 4.50 | 4.65 | |
| A1 | — | — | 0.15 | |
| A2 | 2.20 | 2.40 | 2.60 | |
| b | 0.70 | 0.80 | 0.90 | |
| b1 | 1.17 | 1.27 | 1.37 | |
| c | 0.40 | 0.50 | 0.60 | |
| c1 | 0.40 | 0.50 | 0.60 | |
| D | 9.80 | 10.00 | 10.20 | |
| D1 | 6.40 | 6.60 | 6.80 | |
| E | 15.00 | 15.40 | 15.80 | |
| E1 | 9.05 | 9.20 | 9.35 | |
| E2 | 1.00 | 1.20 | 1.40 | |
| E3 | 2.50 | 2.70 | 2.90 | |
| e | 2.34 | 2.54 | 2.74 | |
| e1 | 4.88 | 5.08 | 5.28 | |
| L | 4.60 | 5.00 | 5.40 | |
| L1 | 1.40 | 1.45 | 1.50 | |
| L2 | 2.50 | — | — | |

※ Recommend PCB solder land (Unit : mm)



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