

$V_{RSM} = 60\text{ V}$, $I_{F(AV)} = 1.0\text{ A}$
Schottky Diode
SJPB-D6

Description

The SJPB-D6 is a 60 V, 1.0 A Schottky diode with allowing improvements in V_F and I_R characteristics.

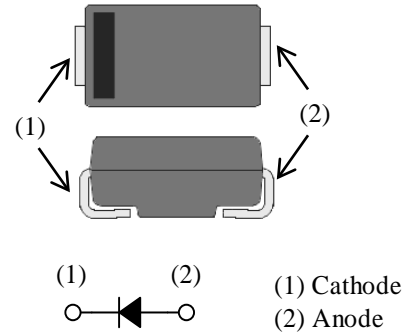
These characteristic features contribute to improving power supply efficiency and to enabling high-frequency systems.

Features

- V_{RSM} ----- 60 V
- $I_{F(AV)}$ ----- 1.0 A
- V_F ($I_F = 1.0\text{ A}$) ----- 0.58 V typ.
- Bare Lead Frame: Pb-free (RoHS Compliant)
- Suitable for High Reliability and Automotive Requirement

Package

SJP



Not to scale

Applications

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

SJPB-D6

Absolute Maximum Ratings

Unless otherwise specified, $T_A = 25\text{ }^\circ\text{C}$.

| Parameter | Symbol | Rating | Unit | Conditions |
|---------------------------------|-------------|------------|------------------|--|
| Peak Repetitive Reverse Voltage | V_{RSM} | 60 | V | |
| Repetitive Reverse Voltage | V_{RM} | 60 | V | |
| Average Forward Current | $I_{F(AV)}$ | 1.0 | A | See Figure 1 and Figure 2 |
| Surge Forward Current | I_{FSM} | 20 | A | Half cycle sine wave, positive side, 10 ms, 1 shot |
| I^2t Limiting Value | I^2t | 2.0 | A^2s | $1\text{ ms} \leq t \leq 10\text{ ms}$ |
| Junction Temperature | T_J | -40 to 150 | $^\circ\text{C}$ | |
| Storage Temperature | T_{STG} | -40 to 150 | $^\circ\text{C}$ | |

Electrical Characteristics

Unless otherwise specified, $T_A = 25\text{ }^\circ\text{C}$.

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|--|---------------|---|------|------|------|--------------------|
| Forward Voltage Drop | V_F | $I_F = 1.0\text{ A}$ | — | 0.58 | 0.68 | V |
| Reverse Leakage Current | I_R | $V_R = V_{RM}$ | — | — | 100 | μA |
| Reverse Leakage Current Under High Temperature | $H \cdot I_R$ | $V_R = V_{RM}, T_J = 150\text{ }^\circ\text{C}$ | — | — | 30 | mA |
| Thermal Resistance ⁽¹⁾ | $R_{th(J-L)}$ | | — | — | 20 | $^\circ\text{C/W}$ |

⁽¹⁾ $R_{th(J-L)}$ is thermal resistance between junction and lead.

Rating and Characteristic Curves

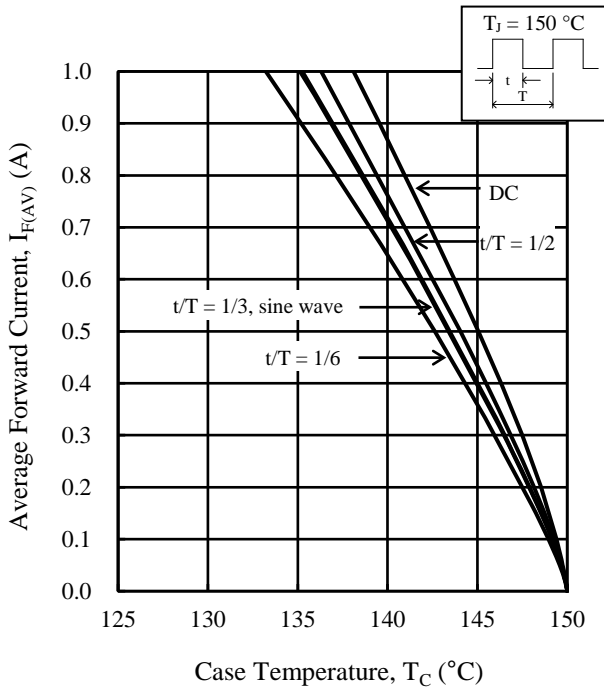


Figure 1. T_C vs. $I_{F(AV)}$ Typical Characteristics ($V_R = 0\text{ V}$)

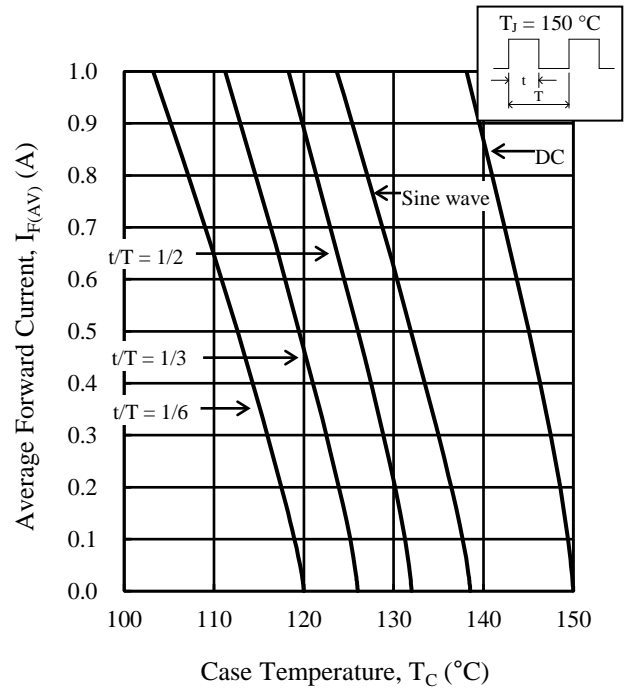


Figure 2. T_C vs. $I_{F(AV)}$ Typical Characteristics ($V_R = 60\text{ V}$)

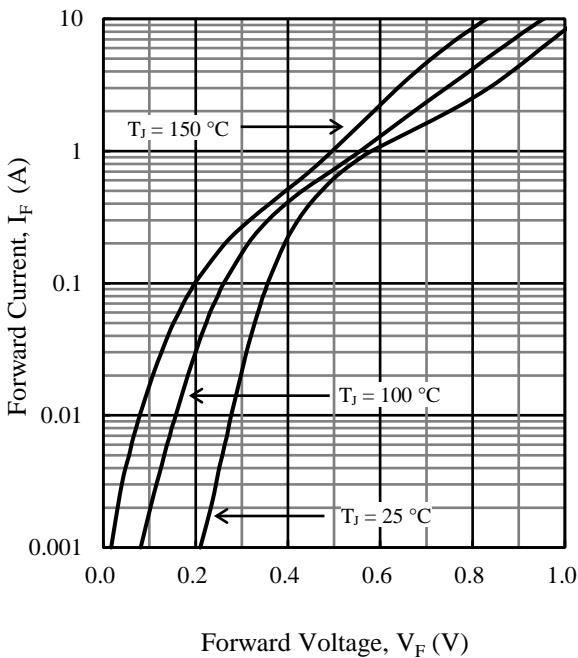


Figure 3. V_F vs. I_F Typical Characteristics

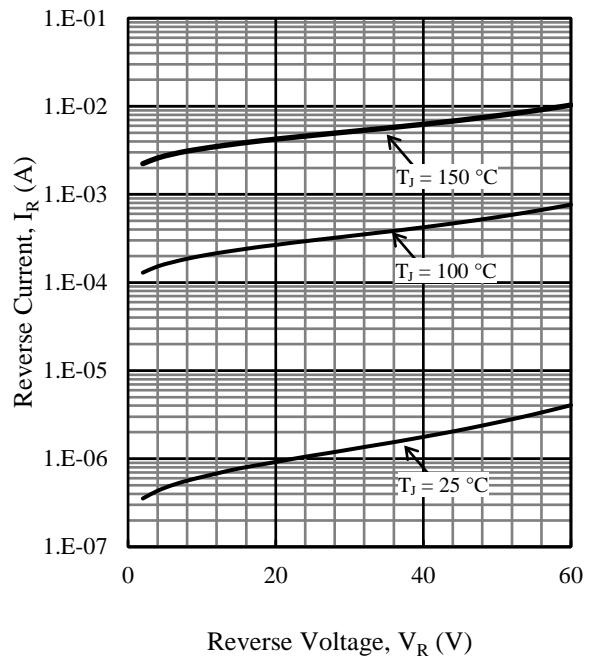
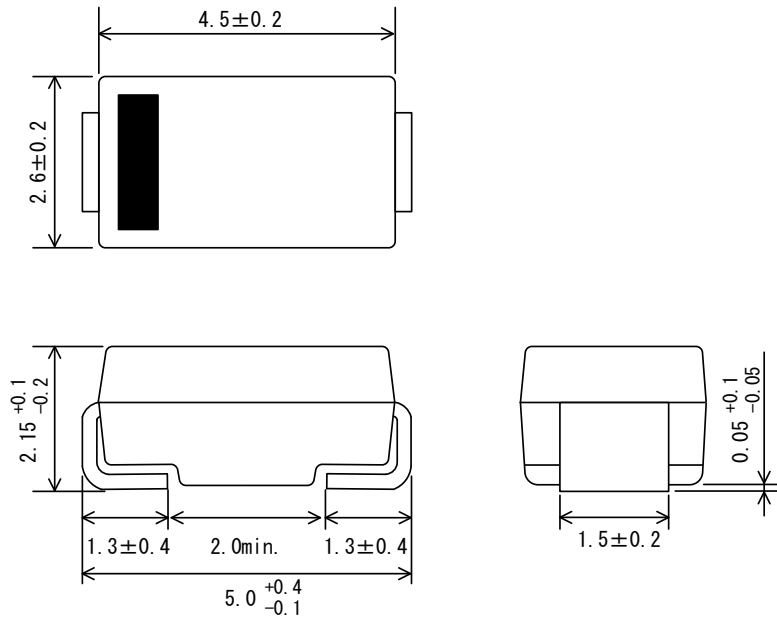


Figure 4. V_R vs. I_R Typical Characteristics

SJPB-D6

Physical Dimensions

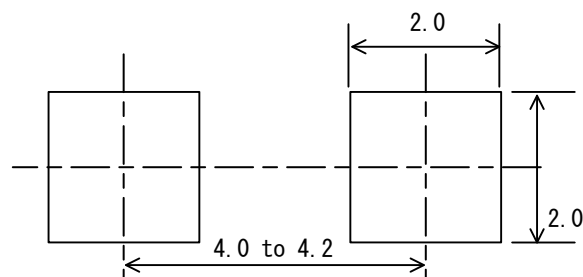
• SJP Package



NOTES:

- Dimensions in millimeters
- Bare lead frame: Pb-free (RoHS compliant)
- When soldering the products, be sure to minimize the working time, within the following limits:
 - Flow: 260 ± 5 °C / 10 ± 1 s, 2 times
 - Soldering Iron: 380 ± 10 °C / 3.5 ± 0.5 s, 1 time

• SJP Land Pattern Example



NOTE: Dimensions in millimeters

Marking Diagram

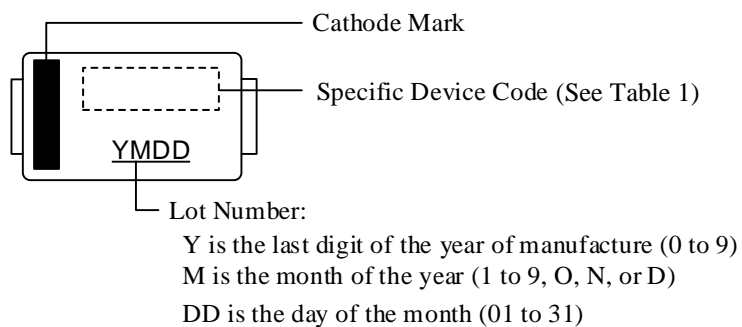


Table 1. Specific Device Code

| Specific Device Code | Part Number |
|----------------------|-------------|
| BD6 | SJPB-D6 |

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DSGN-AEZ-16003