

**$V_{RSM} = 40\text{ V}$ ,  $I_{F(AV)} = 2.0\text{ A}$**   
**Schottky Diode**  
**SJPB-H4**

**Description**

The SJPB-H4 is a 40 V, 2.0 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**

- $V_{RSM}$  ----- 40 V
- $I_{F(AV)}$  ----- 2.0 A
- $V_F$  ( $I_F = 2.0\text{ A}$ ) ----- 0.50 V typ.
- Bare Lead Frame: Pb-free (RoHS Compliant)
- Suitable for High Reliability and Automotive Requirement

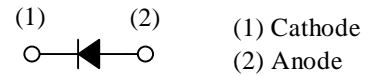
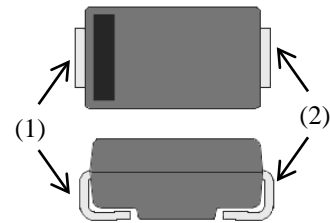
**Applications**

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

**Package**

SJP



Not to scale

## SJPB-H4

### Absolute Maximum Ratings

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

| Parameter                       | Symbol      | Rating     | Unit             | Conditions   |
|---------------------------------|-------------|------------|------------------|--|
| Peak Repetitive Reverse Voltage | $V_{RSM}$   | 40         | V                |  |
| Repetitive Reverse Voltage      | $V_{RM}$    | 40         | V                |  |
| Average Forward Current         | $I_{F(AV)}$ | 2.0        | A                | See Figure 1 and Figure 2                          |
| Surge Forward Current           | $I_{FSM}$   | 50         | A                | Half cycle sine wave, positive side, 10 ms, 1 shot |
| $I^2t$ Limiting Value           | $I^2t$      | 12.5       | $A^2s$           | $1\text{ ms} \leq t \leq 10\text{ms}$              |
| 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                           | $V_F$         | $I_F = 2.0\text{ A}$                            | —    | 0.50 | 0.55 | V                  |
| Reverse Leakage Current                        | $I_R$         | $V_R = V_{RM}$                                  | —    | —    | 200  | $\mu\text{A}$      |
| Reverse Leakage Current Under High Temperature | $H \cdot I_R$ | $V_R = V_{RM}, T_J = 150\text{ }^\circ\text{C}$ | —    | —    | 70   | mA                 |
| Thermal Resistance <sup>(1)</sup>              | $R_{th(J-L)}$ |   | —    | —    | 20   | $^\circ\text{C/W}$ |

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

Rating and Characteristic Curves

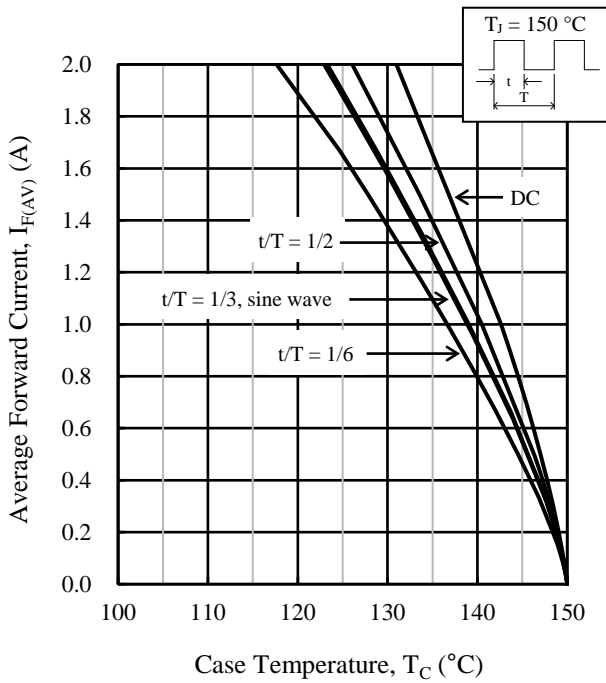


Figure 1.  $T_C$  vs.  $I_{F(AV)}$  Typical Characteristics ( $V_R = 0\text{ V}$ )

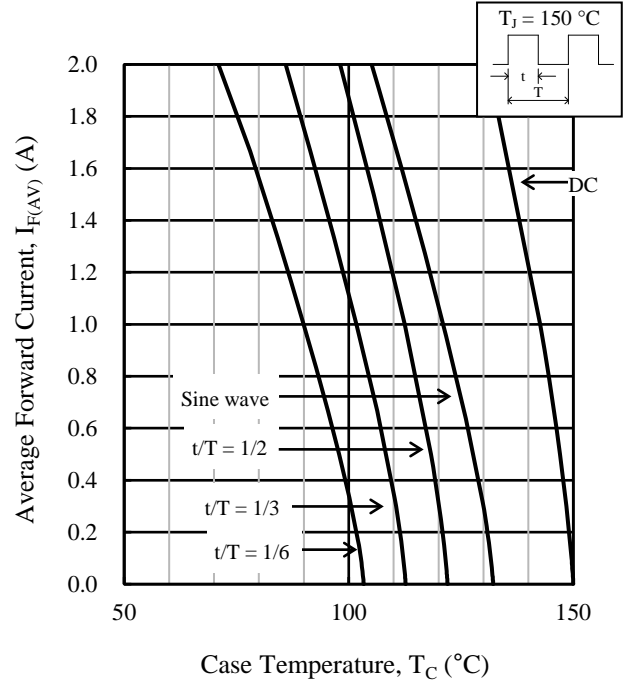


Figure 2.  $T_C$  vs.  $I_{F(AV)}$  Typical Characteristics ( $V_R = 40\text{ V}$ )

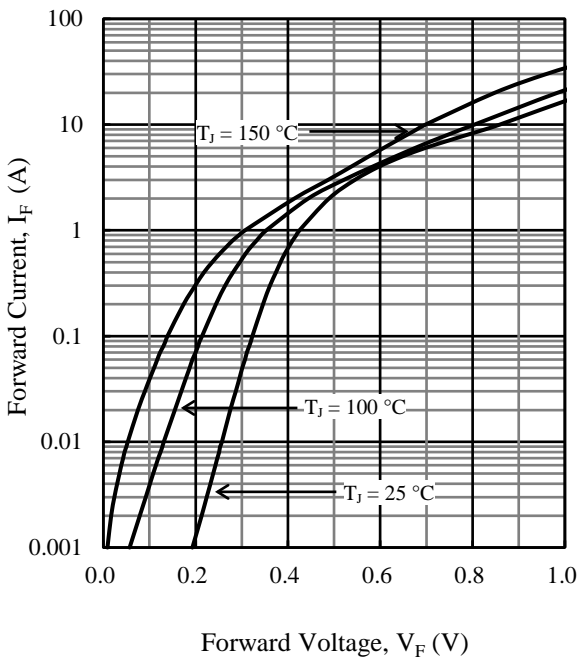


Figure 3.  $V_F$  vs.  $I_F$  Typical Characteristics

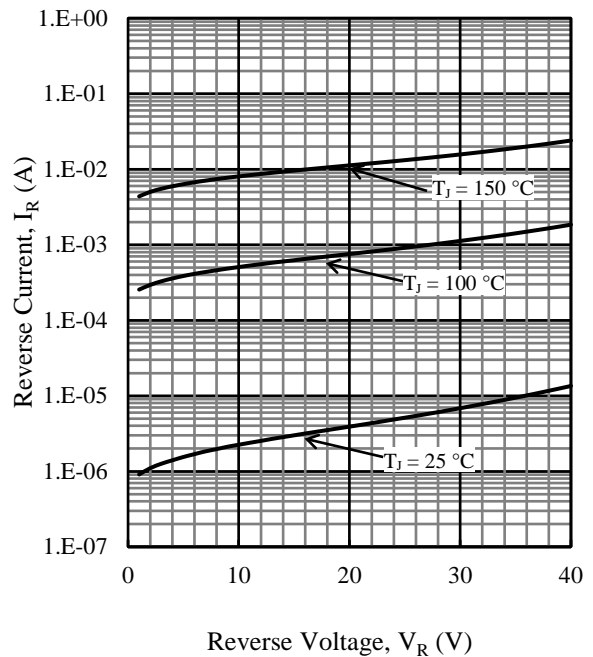
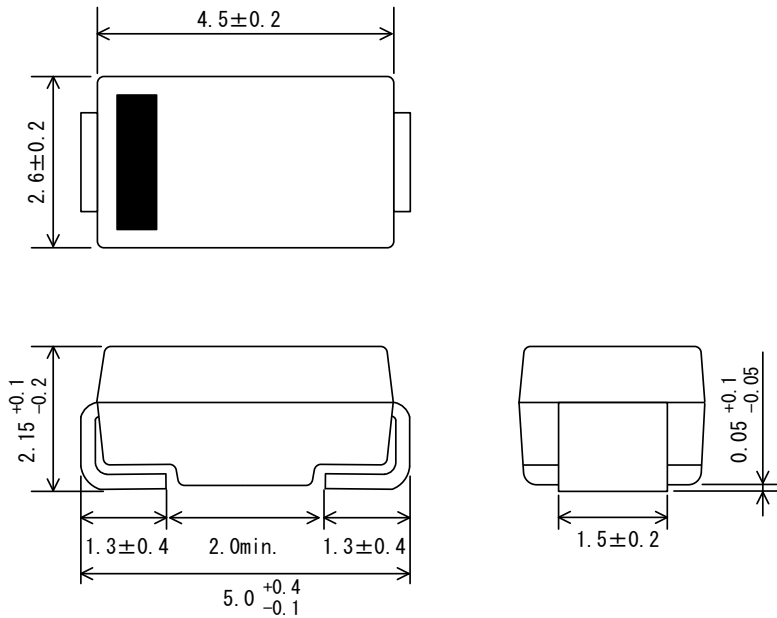


Figure 4.  $V_R$  vs.  $I_R$  Typical Characteristics

## SJPB-H4

### Physical Dimensions

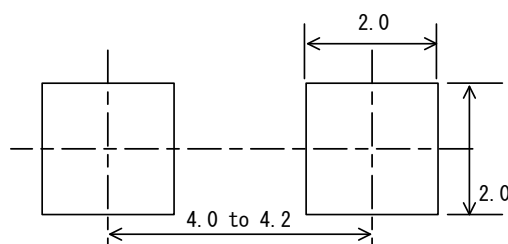
#### • SJP Package



#### 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:  $260 \pm 5$  °C /  $10 \pm 1$  s, 2 times
  - Soldering Iron:  $380 \pm 10$  °C /  $3.5 \pm 0.5$  s, 1 time
- MSL: JEDEC LEVEL1

#### • SJP Land Pattern Example



#### NOTE:

- Dimensions in millimeters

## Marking Diagram

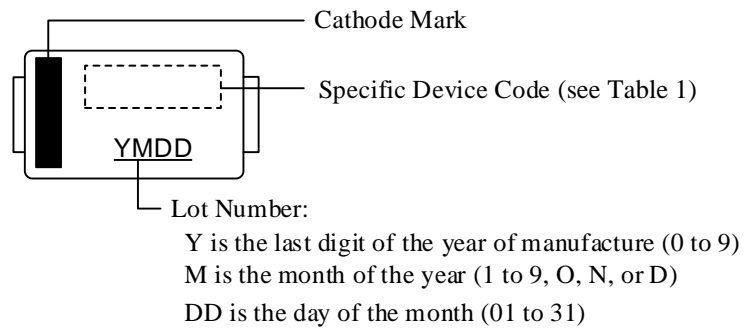


Table 1. Specific Device Code

| Specific Device Code | Part Number |
|----------------------|-------------|
| BH4                  | SJPB-H4     |

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