

$V_{RSM} = 40\text{ V}$, $I_{F(AV)} = 1.0\text{ A}$
Schottky Diode
SJPB-D4

Description

The SJPB-D4 is a 40 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} ----- 40 V
- $I_{F(AV)}$ ----- 1.0 A
- V_F ($I_F = 1.0\text{ A}$) ----- 0.50 V typ.
- Bare Lead Frame: Pb-free (RoHS Compliant)

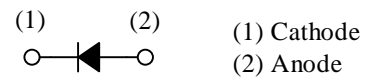
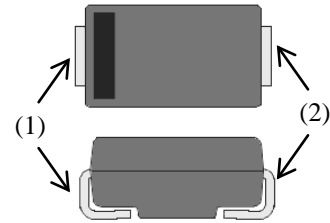
Applications

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

Package

SJP



Not to scale

SJPB-D4

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	$I_{F(AV)}$	1.0	A	See Figure 1 and Figure 2
Surge Forward Current	I_{FSM}	30	A	Half cycle sine wave, positive side, 10 ms, 1 shot
I^2t Limiting Value	I^2t	4.5	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	$I_F = 1.0\text{ A}$	—	0.50	0.55	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	—	100	μA
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{RM}, T_J = 150\text{ }^\circ\text{C}$	—	—	35	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

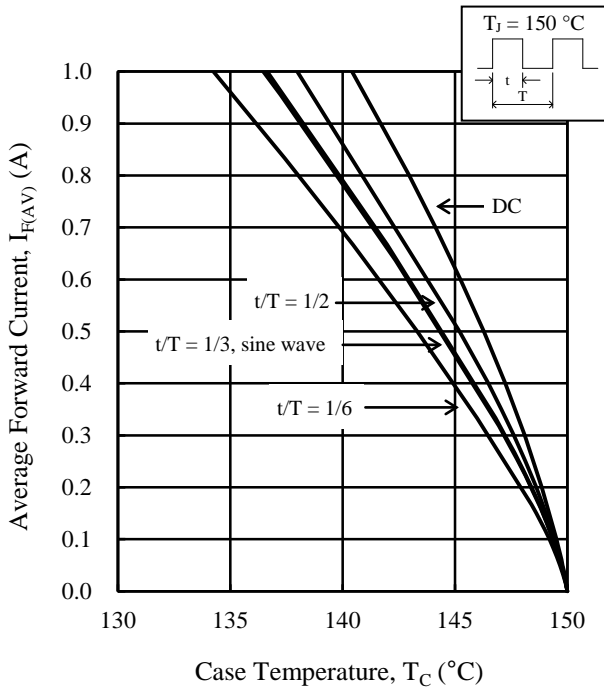


Figure 1. T_C vs. $I_{F(AV)}$ Typical Characteristics ($V_R = 0$ V)

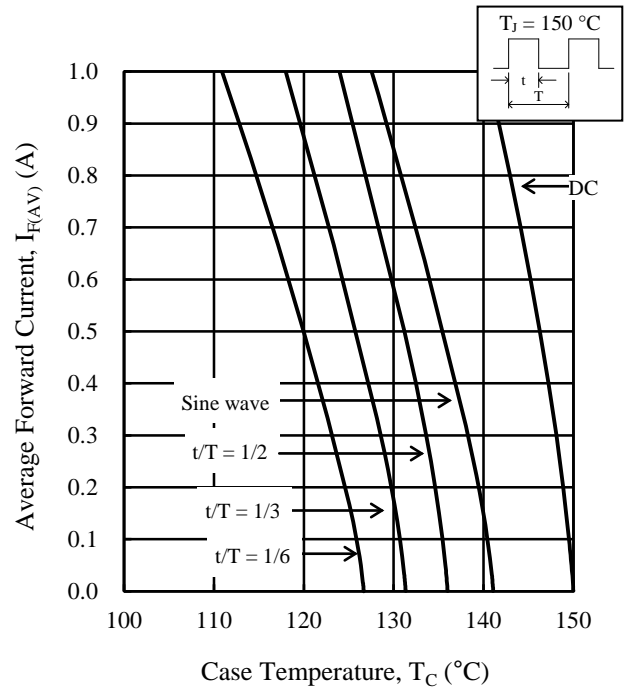


Figure 2. T_C vs. $I_{F(AV)}$ Typical Characteristics ($V_R = 40$ V)

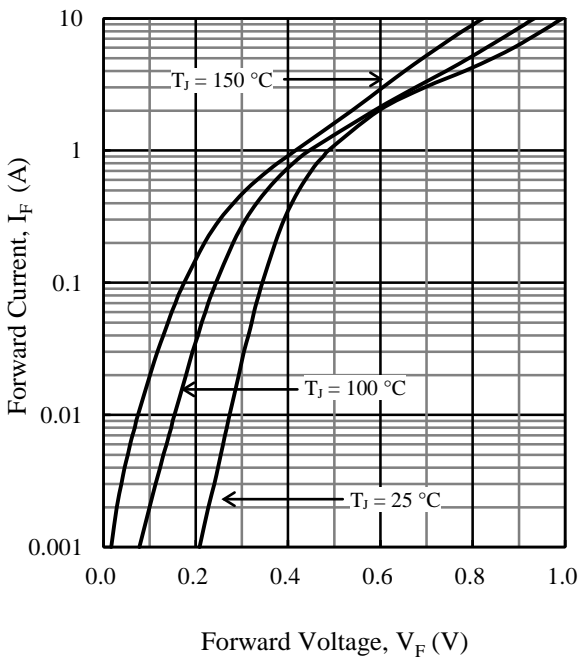


Figure 3. V_F vs. I_F Typical Characteristics

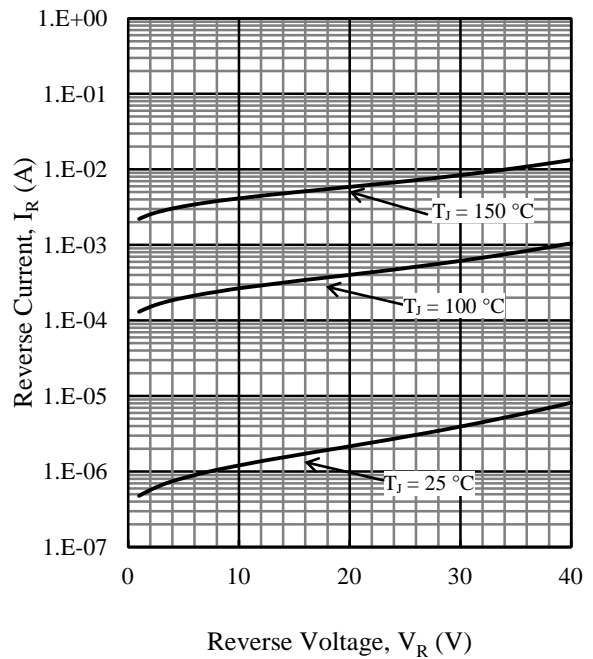
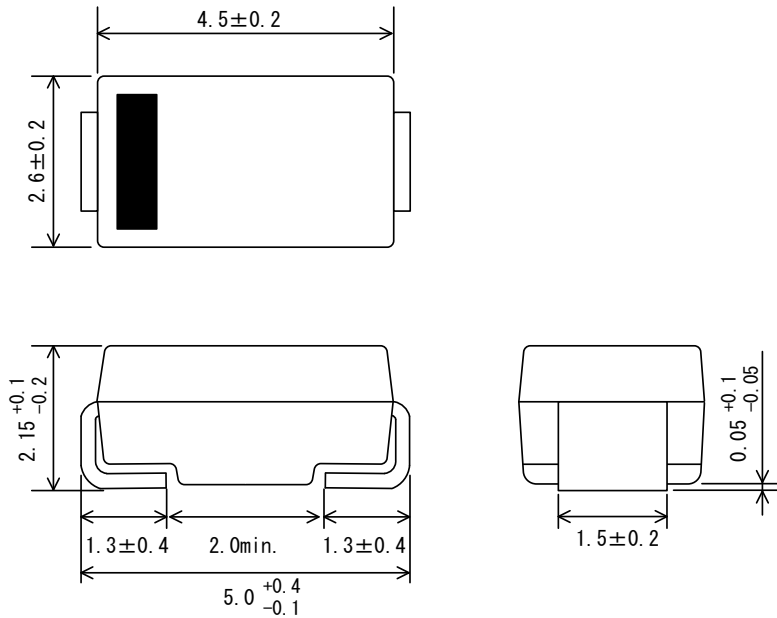


Figure 4. V_R vs. I_R Typical Characteristics

SJPB-D4

Physical Dimensions

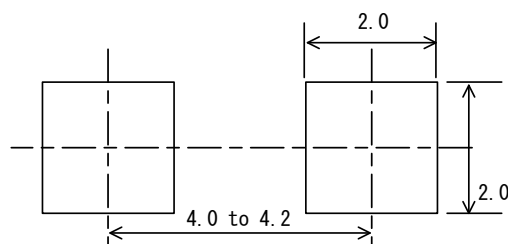
• SJP Package



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
- MSL: JEDEC LEVEL1

• SJP Land Pattern Example



NOTE:

- Dimensions in millimeters

Marking Diagram

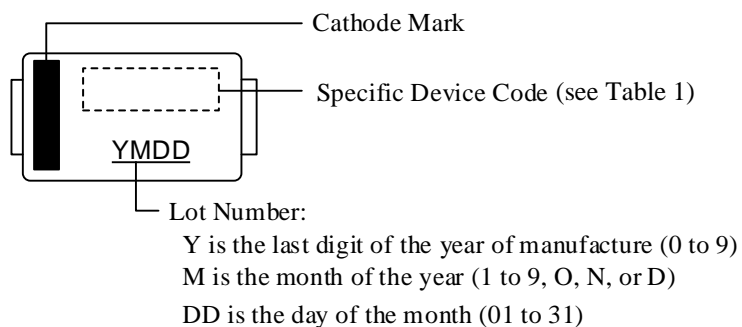


Table 1. Specific Device Code

Specific Device Code	Part Number
BD4	SJPB-D4

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