

$V_{RSM} = 40\text{ V}$, $I_{F(AV)} = 1.0\text{ A}$
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)
- Flammability: Equivalent to UL94V-0

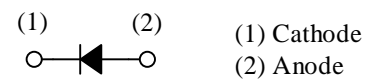
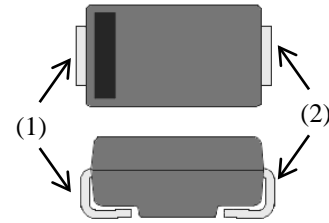
Applications

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	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage	V_{RSM}		40	V
Repetitive Peak Reverse Voltage	V_{RM}		40	V
Average Forward Current	$I_{F(AV)}$	See Figure 1 and Figure 2	1.0	A
Surge Forward Current	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	30	A
I^2t Limiting Value	I^2t	$1\text{ ms} \leq t \leq 10\text{ms}$	4.5	A^2s
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

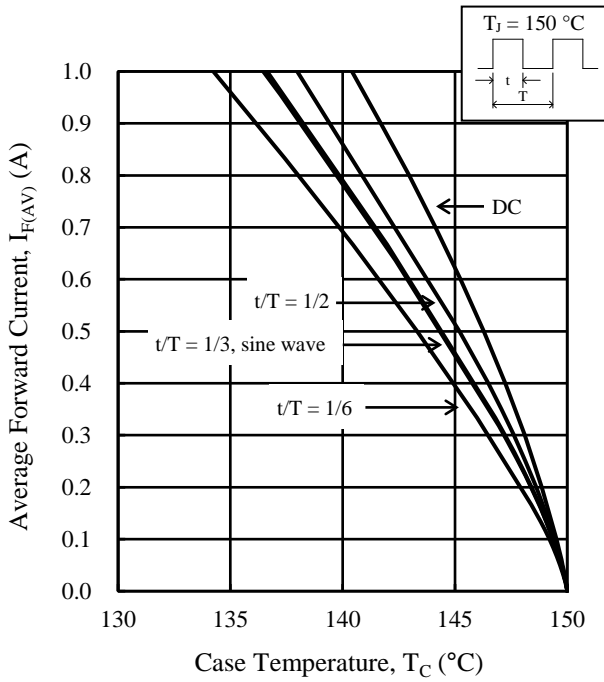


Figure 1. Typical Characteristics: $I_{F(AV)}$ vs. T_C ($V_R = 0$ V)

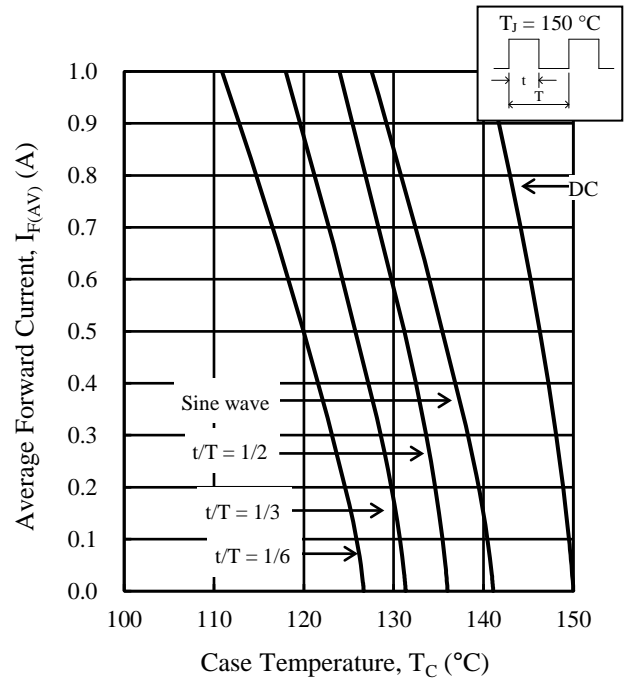


Figure 2. Typical Characteristics: $I_{F(AV)}$ vs. T_C ($V_R = 40$ V)

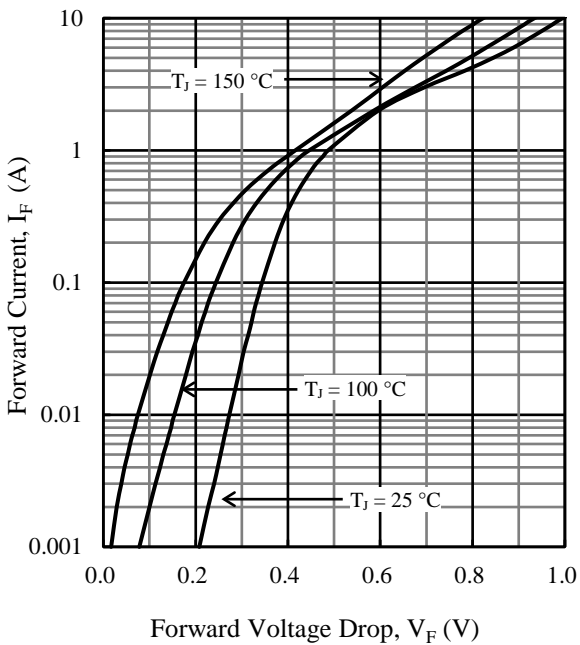


Figure 3. Typical Characteristics: I_F vs. V_F

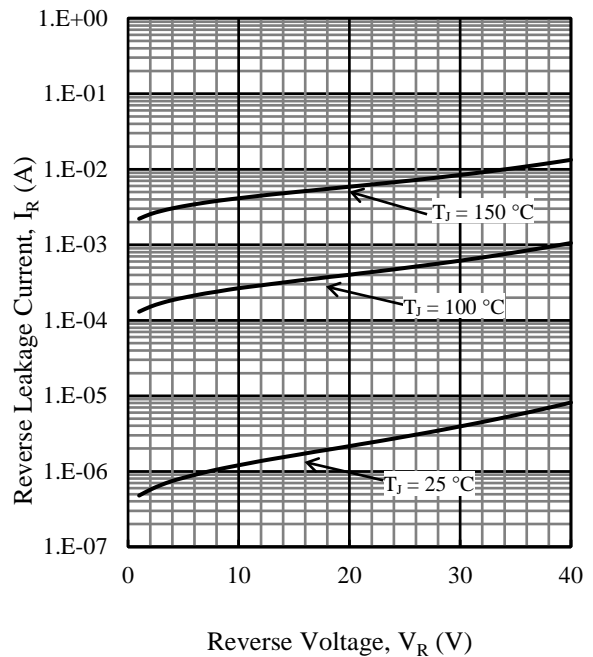
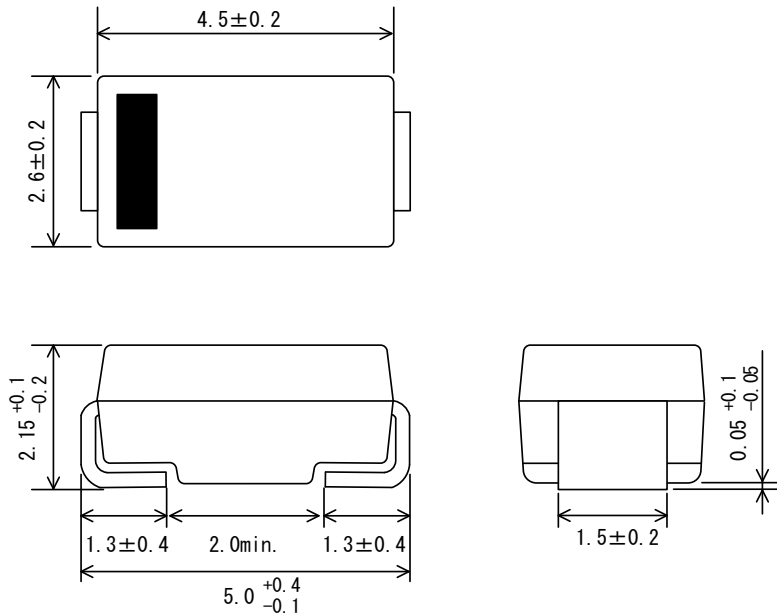


Figure 4. Typical Characteristics: I_R vs. V_R

SJPB-D4

Physical Dimensions

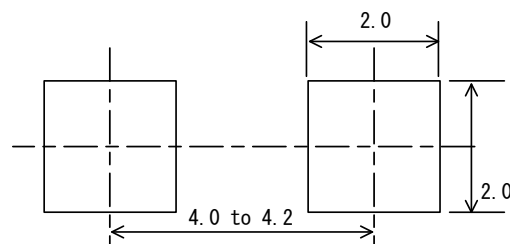
• SJP Package



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

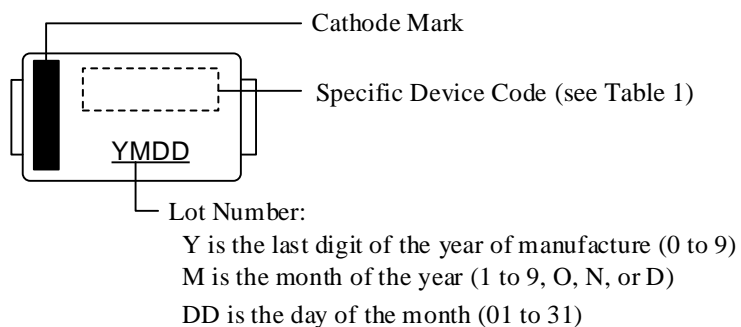


Table 1. Specific Device Code

Specific Device Code	Part Number
BD4	SJPB-D4

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