

**$V_{RSM} = 60\text{ V}$ ,  $I_{F(AV)} = 1.5\text{ A}$**   
**Schottky Diode**  
**SJPW-F6**

**Description**

The SJPW-F6 is a 60 V, 1.5 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
- $I_{F(AV)}$  ----- 1.5 A
- $V_F$  ( $I_F = 1.5\text{ A}$ ) ----- 0.59 V typ.
- Bare Lead Frame: Pb-free (RoHS Compliant)
- Suitable for High Reliability and Automotive Requirement
- Flammability: Equivalent to UL94V-0

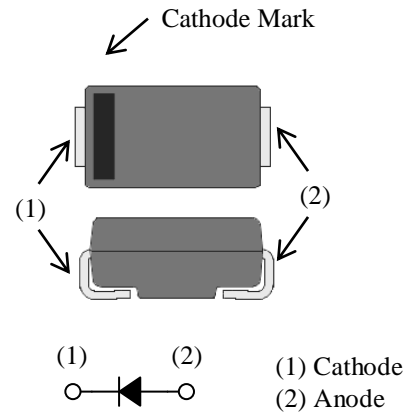
**Applications**

High speed switching applications as follows:

- DC-DC Converter
- Adapter

**Package**

SJP



Not to scale

## SJPW-F6

### Absolute Maximum Ratings

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

Parameter	Symbol	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage	$V_{RSM}$		60	V
Repetitive Peak Reverse Voltage	$V_{RM}$		60	V
Average Forward Current	$I_{F(AV)}$	See Figure 2 and Figure 3	1.5	A
Surge Forward Current	$I_{FSM}$	Half cycle sine wave, positive side, 10 ms, 1 shot	25	A
$I^2t$ Limiting Value	$I^2t$	$1\text{ ms} \leq t \leq 10\text{ms}$	3.125	$\text{A}^2\text{s}$
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	$V_F$	$I_F = 1.5\text{ A}$	—	0.59	0.7	V
Reverse Leakage Current	$I_R$	$V_R = V_{RM}$	—	—	1	mA
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	$^\circ\text{C/W}$

### Mechanical Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Package Weight		—	0.072	—	g

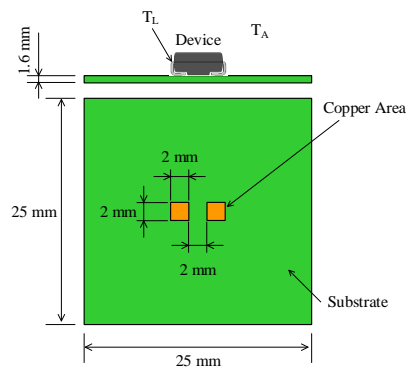


Figure 1. Lead Temperature Measurement Conditions

<sup>(1)</sup>  $R_{th(J-L)}$  is thermal resistance between junction and lead. Lead temperature ( $T_L$ ) is measured near the root of pin (see Figure 1).

Derating Curves

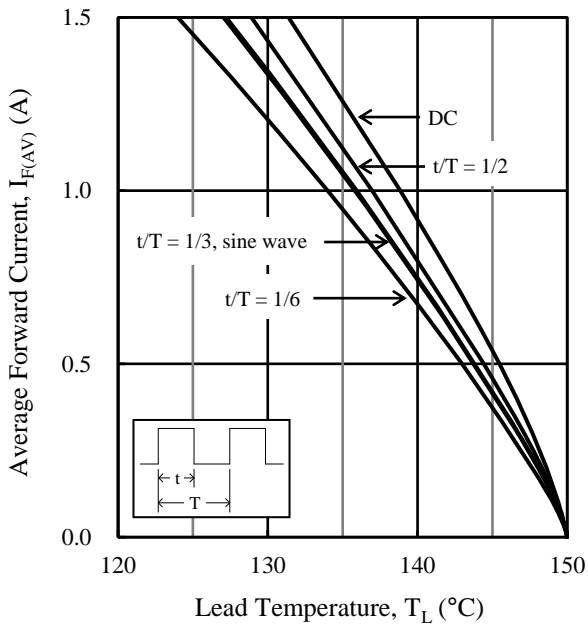


Figure 2.  $I_{F(AV)}$  vs.  $T_L$  ( $T_J = 150$  °C,  $V_R = 0$  V)

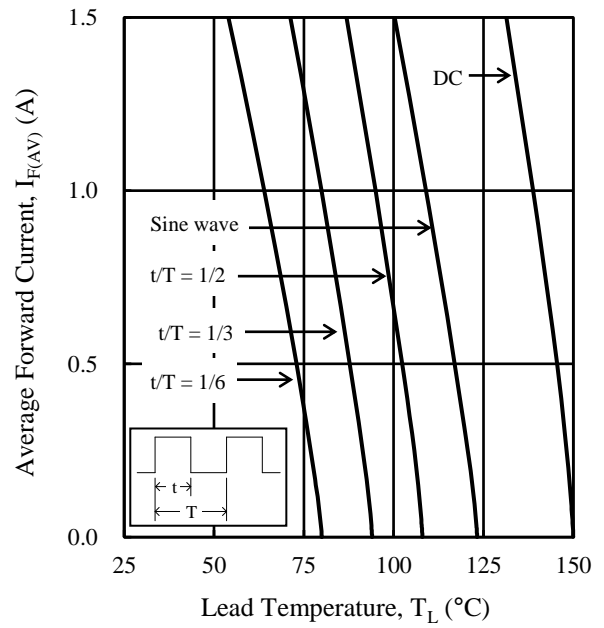


Figure 3.  $I_{F(AV)}$  vs.  $T_L$  ( $T_J = 150$  °C,  $V_R = 60$  V)

Characteristic Curves

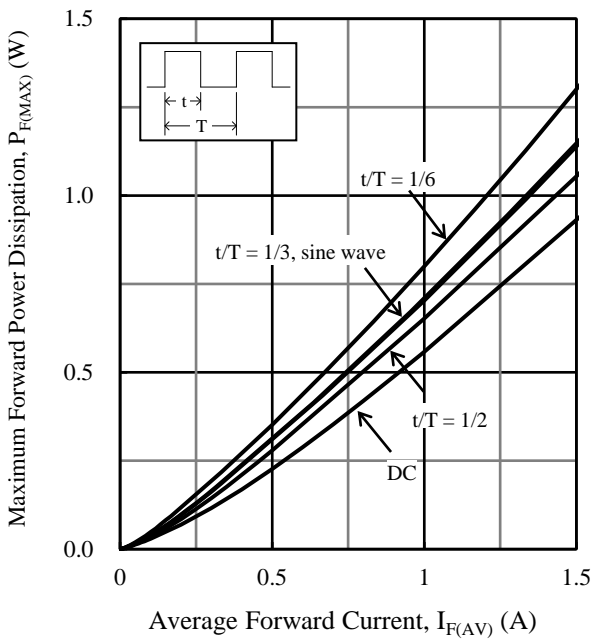


Figure 4.  $P_{F(MAX)}$  vs.  $I_{F(AV)}$  ( $T_J = 150\text{ }^\circ\text{C}$ )

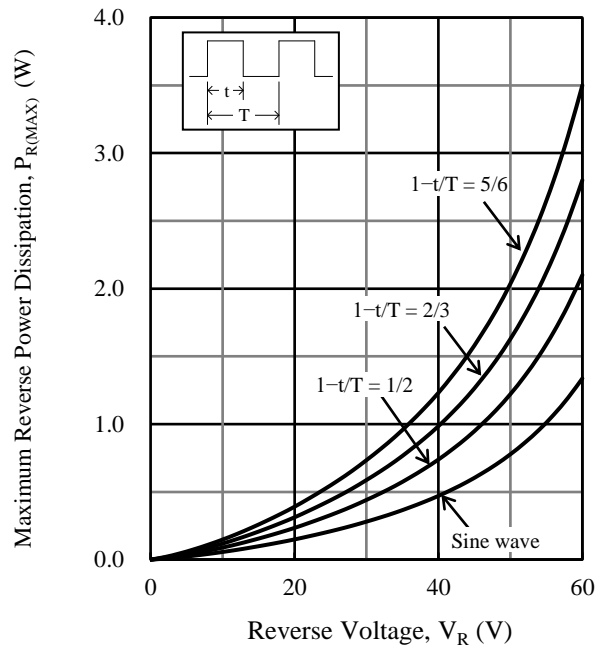


Figure 5.  $P_{R(MAX)}$  vs.  $V_R$  ( $T_J = 150\text{ }^\circ\text{C}$ )

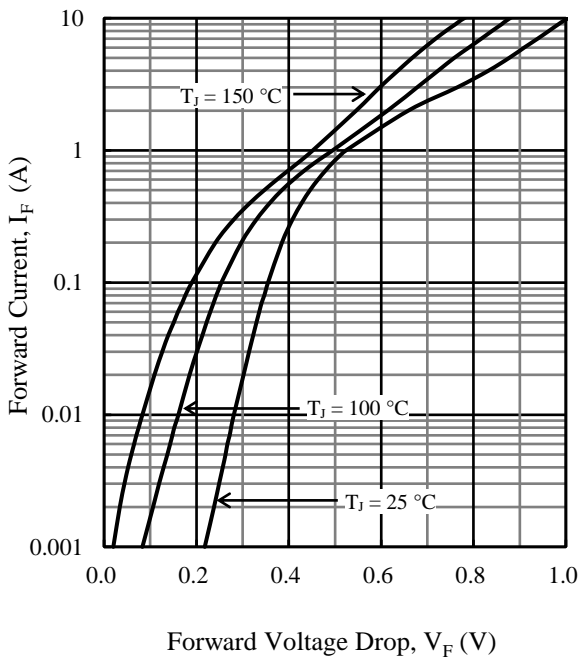


Figure 6. Typical Characteristics:  $I_F$  vs.  $V_F$

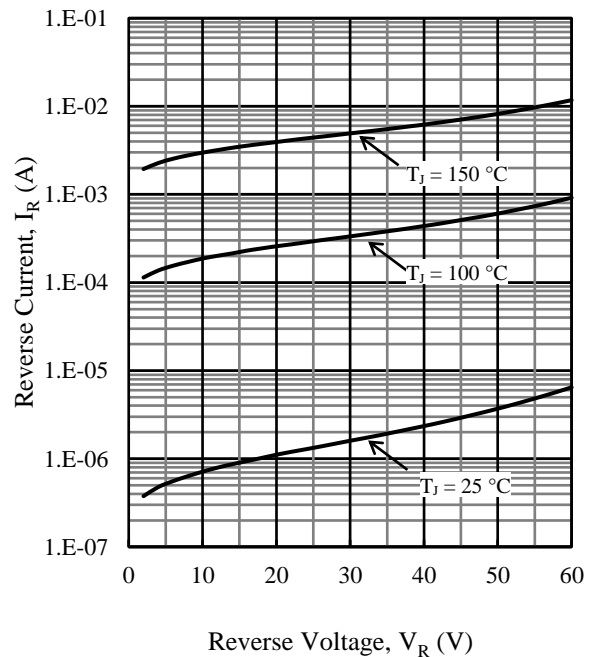


Figure 7. Typical Characteristics:  $I_R$  vs.  $V_R$

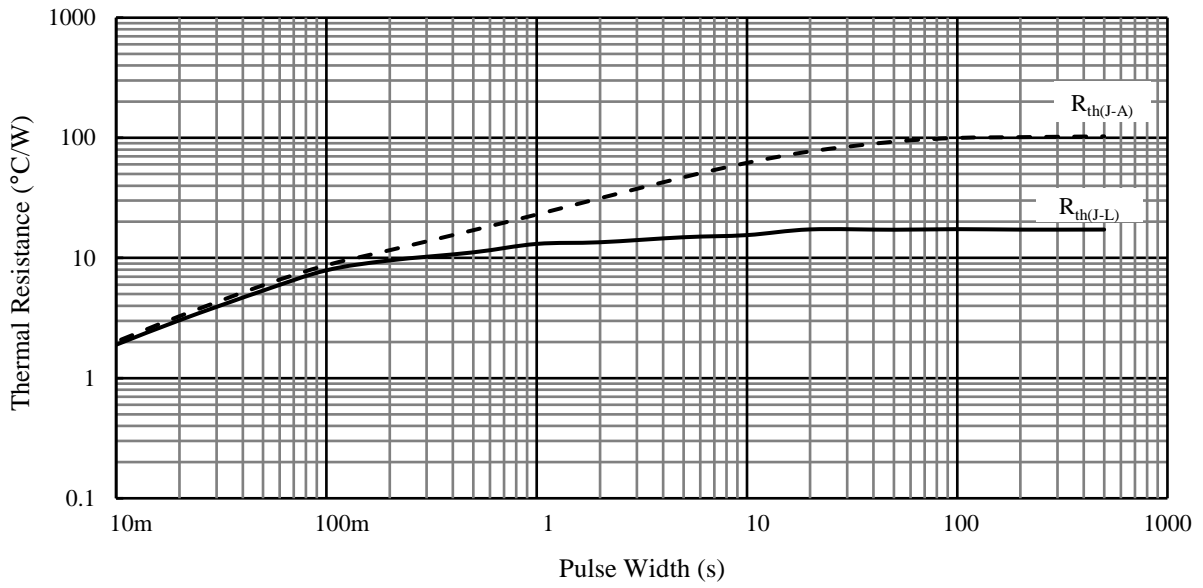
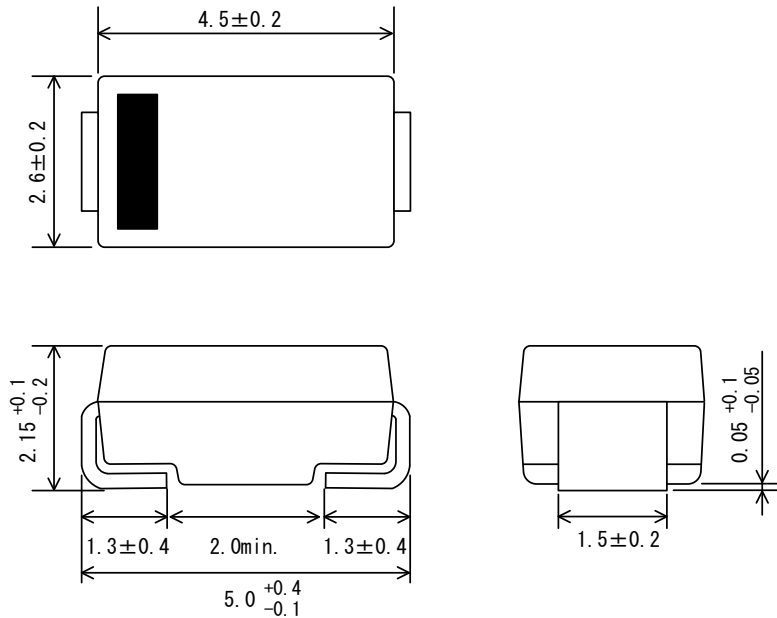


Figure 8. Typical Transient Thermal Resistance Characteristics

## SJPW-F6

### Physical Dimensions

#### • SJP Package



#### NOTES:

- Dimensions in millimeters
- Bare lead frame: Pb-free (RoHS compliant)
- Moisture Sensitivity Level 1 (MSL 1)

When soldering the products, it is required to minimize the working time within the following limits:

Flow:  $260\text{ }^{\circ}\text{C}$  / 10 s, 1 time

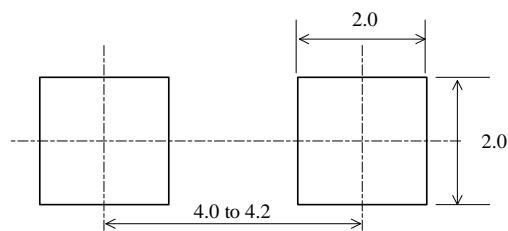
Reflow:

Preheat:  $150\text{ }^{\circ}\text{C}$  to  $200\text{ }^{\circ}\text{C}$  / 60 s to 120 s

Solder heating:  $255\text{ }^{\circ}\text{C}$  / 30 s, 3 times ( $260\text{ }^{\circ}\text{C}$  peak)

Soldering Iron:  $350\text{ }^{\circ}\text{C}$  / 3.5 s, 1 time

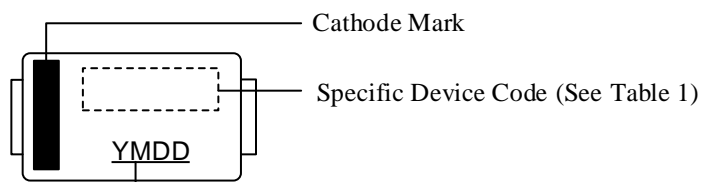
#### • SJP Land Pattern Example



#### NOTE:

- Dimensions in millimeters

## Marking Diagram



Lot Number:

Y is the last digit of the year of manufacture (0 to 9)

M is the month of the year (1 to 9, O, N, or D)

DD is the day of the month (01 to 31)

Table 1. Specific Device Code

Specific Device Code	Part Number
WF6	SJPW-F6

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