

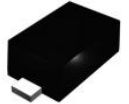
## Small Signal Schottky Barrier Diode

### Features

- Low reverse current and low forward voltage
- High reliability
- Small surface mounting type



**RB521V-30**  
SOD-323



**RB521S-30**  
SOD-523

### Applications

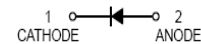
- Low current rectification

### Mechanical Data

- Case: SOD-323, SOD - 523, DFN1006-2
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208



**RB521L-30**  
DFN1006-2



| Maximum Ratings (T <sub>A</sub> =25°C unless otherwise noted) |                    |       |      |
|---|--------------------|-------|------|
| Parameter   | Symbol             | Value | Unit |
| Peak Repetitive Reverse Voltage                               | V <sub>RRM</sub>   | 30    | V    |
| DC Blocking Voltage   | V <sub>DC</sub>    | 30    | V    |
| Maximum Average Forward Output Current                        | I <sub>F(AV)</sub> | 200   | mA   |
| Peak Forward Surge Current, 8.3ms Single-Half-sine wave       | I <sub>FSM</sub>   | 1     | A    |

| Thermal Characteristics (T <sub>A</sub> =25°C unless otherwise noted) |                    |             |           |           |       |
|---|--------------------|-------------|-----------|-----------|-------|
| Parameter   | Symbol             | RB521V-30   | RB521S-30 | RB521L-30 | Units |
| Power Dissipation   | P <sub>D</sub>     | 200         | 150       | 100       | mW    |
| Typical Thermal Resistance per leg                                    | R <sub>θJA</sub> * | 500         | 667       | 1000      | °C /W |
| Thermal resistance junction to Lead                                   | R <sub>θJL</sub>   | 323         | 658       | 987       | °C /W |
| Thermal resistance junction to case                                   | R <sub>θJc</sub>   | 276         | 421       | 631       | °C /W |
| Operating Junction Temperature Range                                  | T <sub>J</sub>     | -40 to +125 |           |           | °C    |
| Storage Temperature Range   | T <sub>STG</sub>   | -40 to +150 |           |           | °C    |

\* Part mounted on FR-4 board with recommended pad layout

| Electrical Characteristics (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified) |            |                    |      |      |      |               |
|--|------------|--------------------|------|------|------|---------------|
| Parameter  | Symbol     | Test conditions    | Min. | Typ. | Max. | Units         |
| Forward Voltage  | $V_F^*$    | $I_F=200\text{mA}$ |      |      | 0.5  | V             |
| Maximum Peak Reverse Current   | $I_R^{**}$ | $V_R=10\text{V}$   |      |      | 30   | $\mu\text{A}$ |
| *Pulse width $\leq 380\ \mu\text{s}$ , Duty cycle $< 2\%$                          |            |                    |      |      |      |               |
| **pulse test $t_p \leq 5\text{ms}$   |            |                    |      |      |      |               |

## Ratings and Characteristics Waveforms

( $T_A = 25^{\circ}\text{C}$  unless otherwise noted)

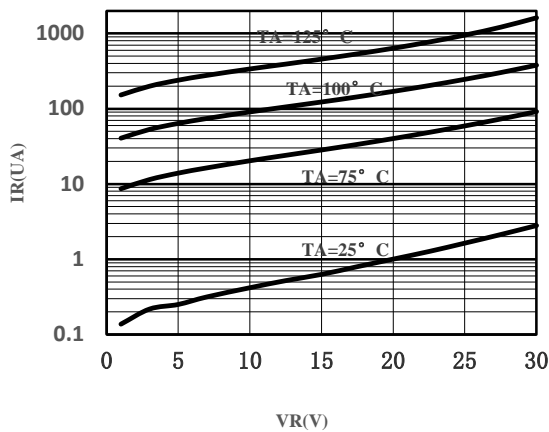


Fig.1- Typical Reverse Characteristic

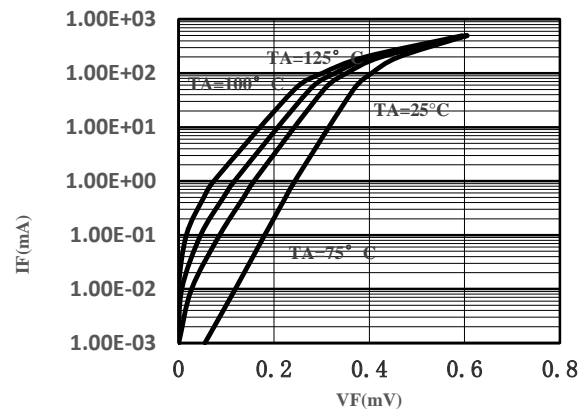


Fig.2- Typical Forward Characteristics

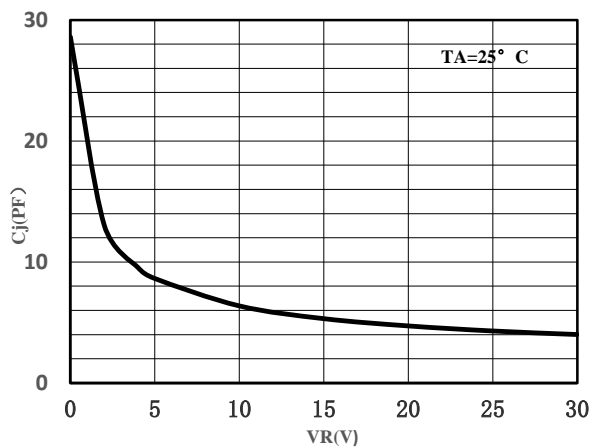


Fig.3-Capacitance Characteristics

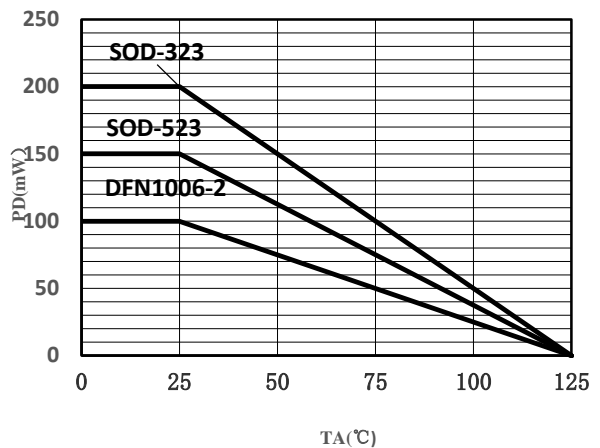
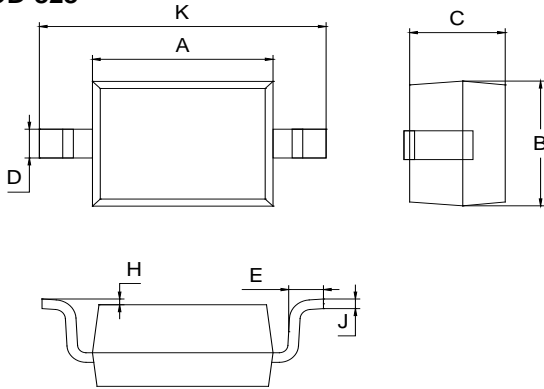


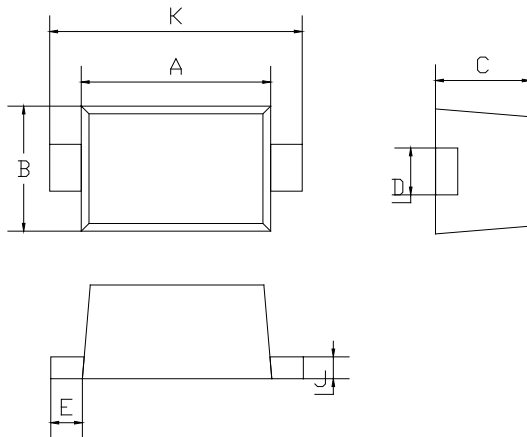
Fig.4-Derating Curve

## Package Outline Dimensions

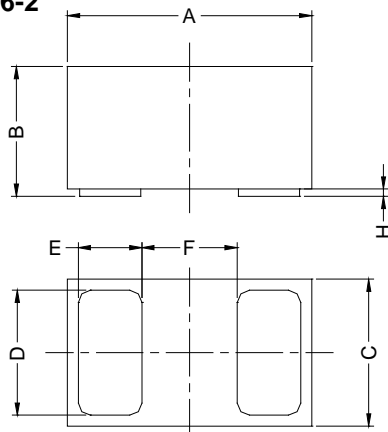
millimeters

**SOD-323**


| SOD-323 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.60 | 1.80 |
| B       | 1.20 | 1.40 |
| C       | 0.80 | 0.90 |
| D       | 0.25 | 0.35 |
| E       | 0.22 | 0.42 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 2.55 | 2.75 |

**SOD-523**


| SOD-523 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.10 | 1.30 |
| B       | 0.70 | 0.90 |
| C       | 0.50 | 0.70 |
| D       | 0.25 | 0.35 |
| E       | 0.15 | 0.25 |
| J       | 0.05 | 0.15 |
| K       | 1.50 | 1.70 |

**DFN1006-2**


| DFN1006-2 |      |      |       |
|-----------|------|------|-------|
| Dim       | Min  | Typ  | Max   |
| A         | 0.95 | 1.00 | 1.075 |
| B         | 0.47 | 0.50 | 0.53  |
| C         | 0.55 | 0.60 | 0.675 |
| D         | 0.45 | 0.50 | 0.55  |
| E         | 0.20 | 0.25 | 0.30  |
| F         | -    | 0.40 | -     |
| H         | 0    | 0.03 | 0.05  |

## Revision History

| Document Version | Date of release | Discription of changes |
|------------------|-----------------|------------------------|
| Rev.A            | 2020.03.04      | First issue            |
|                  |                 |                        |

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