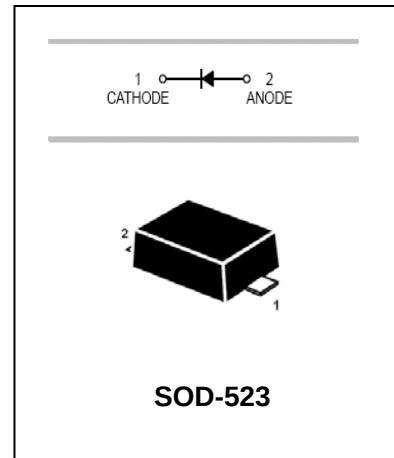


**High Speed Switching Diode****BAS516****FEATURES**

- Ultra small plastic SMD package.
- High switching speed: max.4ns.
- Continuous reverse voltage: max.75V.
- Repetitive peak reverse voltage: max.85V
- Repetitive peak forward current: max.500mA



Lead-free

**SOD-523****APPLICATIONS**

- High-speed switching in surface mounted circuits.

**ORDERING INFORMATION**

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| BAS516   | 61      | SOD-523      |

**MAXIMUM RATING @ Ta=25°C unless otherwise specified**

| Parameter                                 | Symbol                                    | Limits        | Unit |
|-------------------------------------------|-------------------------------------------|---------------|------|
| Repetitive peak reverse voltage           | $V_{RRM}$                                 | 85            | V    |
| Continuous reverse voltage                | $V_R$                                     | 75            | V    |
| Continuous forward current                | $I_F$                                     | 250           | mA   |
| Non-repetitive peak forward surge current | $I_{FSM}$ $t=1\mu s$<br>$t=1ms$<br>$t=1s$ | 4<br>1<br>0.5 | A    |
| Total power dissipation                   | $P_{tot}$                                 | 500           | mW   |
| Junction temperature                      | $T_j$                                     | 150           | °C   |
| Storage temperature                       | $T_{stg}$                                 | -65-150       | °C   |

**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

## High Speed Switching Diode

## BAS516

| Parameter             | Symbol   | Min. | Max.  | Unit          | Conditions                                         |
|-----------------------|----------|------|-------|---------------|----------------------------------------------------|
| Forward voltage       | $V_F$    |      | 0.715 | V             | $I_F=1\text{mA}$                                   |
|                       |          |      | 0.855 | V             | $I_F=10\text{mA}$                                  |
|                       |          |      | 1     | V             | $I_F=50\text{mA}$                                  |
|                       |          |      | 1.25  | V             | $I_F=150\text{mA}$                                 |
| Reverse current       | $I_R$    |      | 30    | nA            | $V_R=25\text{V}$                                   |
|                       |          |      | 30    | $\mu\text{A}$ | $V_R=25\text{V } T_J=150^\circ\text{C}$            |
|                       |          |      | 1     | $\mu\text{A}$ | $V_R=75\text{V}$                                   |
|                       |          |      | 50    | $\mu\text{A}$ | $V_R=75\text{V } T_J=150^\circ\text{C}$            |
| Diode capacitance     | $C_d$    |      | 1     | pF            | $V_R=0, f=1\text{MHz}$                             |
| Reverse recovery time | $t_{rr}$ |      | 4     | ns            | $I_F=10\text{mA}, I_R=10\text{mA}, R_L=1\text{mA}$ |

### TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

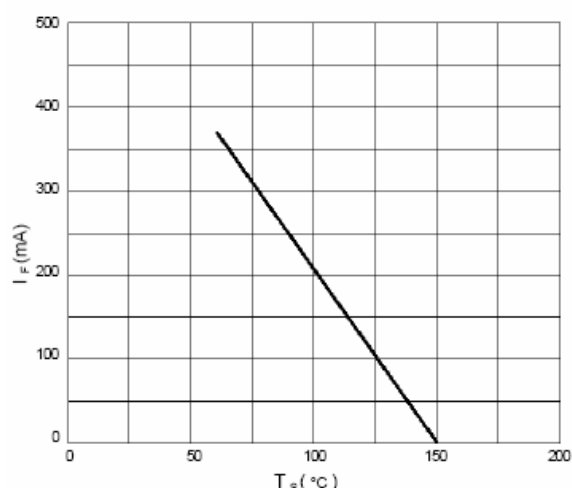


Fig.1 Maximum permissible continuous forward current as a function of soldering point temperature.

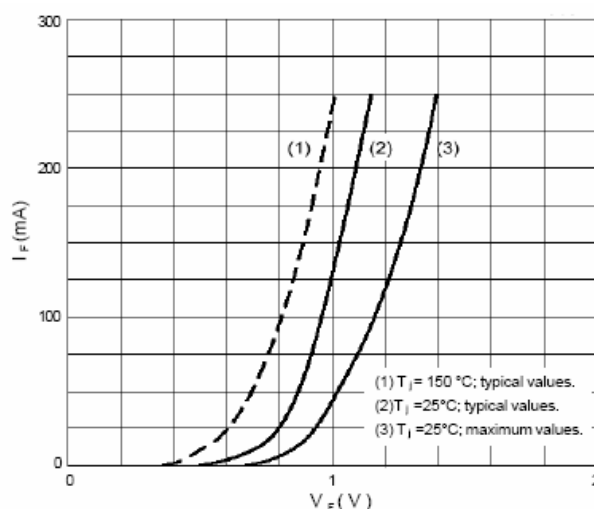


Fig.2 Forward current as a function of forward voltage.

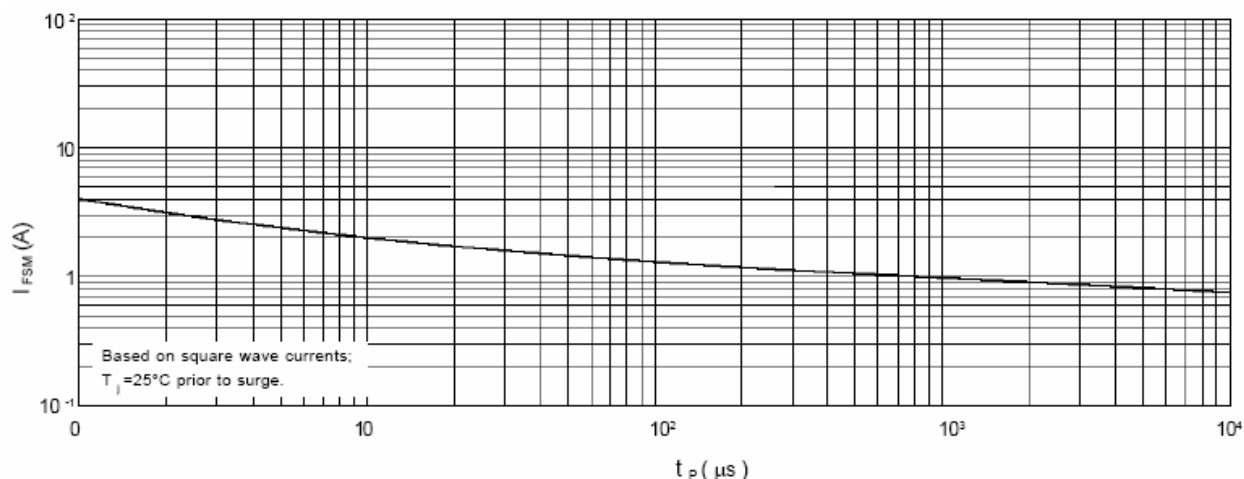
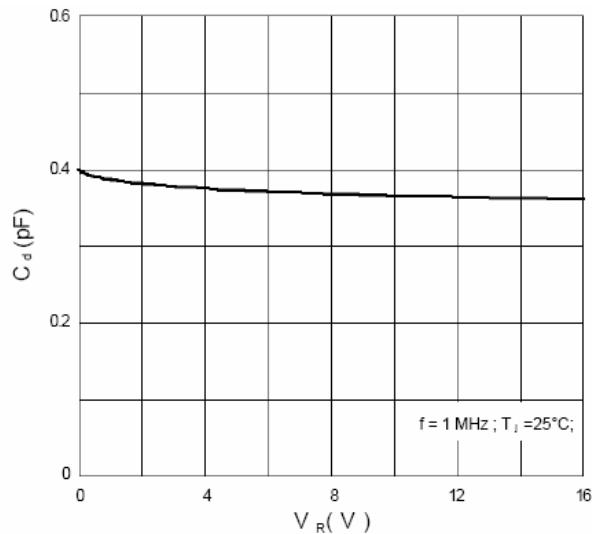
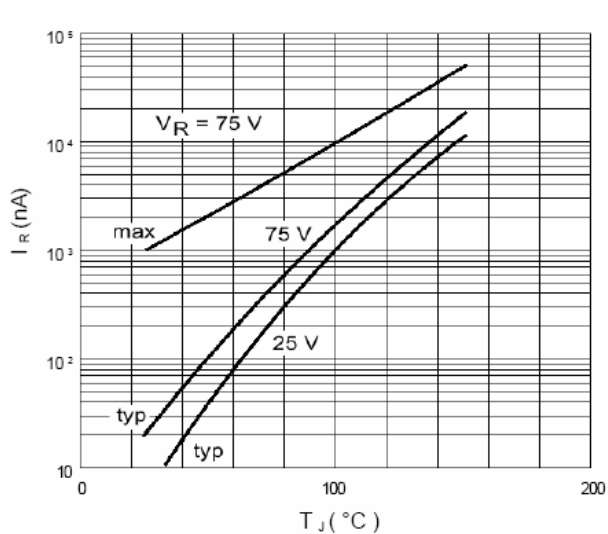


Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

High Speed Switching Diode

BAS516



PACKAGE OUTLINE

Plastic surface mounted package

SOD-523

Mechanical drawing of the SOD-523 package showing dimensions A, B, C, D, E, J, and K.

| SOD-523 |             |      |
|---------|-------------|------|
| Dim     | Min         | Max  |
| A       | 1.1         | 1.3  |
| B       | 0.7         | 0.9  |
| C       | 0.5         | 0.7  |
| D       | 0.25        | 0.35 |
| E       | 0.15        | 0.25 |
| J       | 0.1 Typical |      |
| K       | 1.5         | 1.7  |

All Dimensions in mm

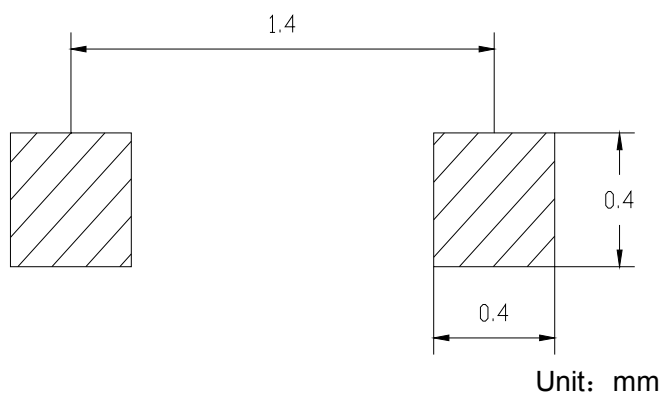
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**High Speed Switching Diode**

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**BAS516**

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**SOLDERING FOOTPRINT****PACKAGE INFORMATION**

| Device | Package | Shipping       |
|--------|---------|----------------|
| BAS516 | SOD-523 | 3000/Tape&Reel |