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## Features

- Fast Switching Device (TRR <4nS)
- Power Dissipation of 150mW
- High Stability and High Reliability
- Low reverse leakage

## Applications

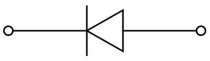
Small signal switching
Ultra high speed switching application

## Mechanical Data

- Case: SOD-523
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Cathode line denotes the cathode end

## Function Diagram



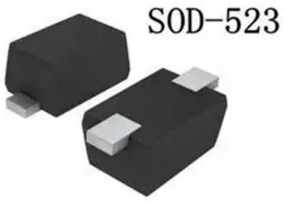



# BAS516

FAST SWITHING DIODES

## SOD-523 Fast Swithing Diodes

**Reverse Voltage**
75 V
**Forward Current**
0.25 Ampere




## Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | VALUE |
|---|---|---|---|
| Non-Repetitive Peak Reverse Voltage | $V_{RM}$ | V | 100 |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | V | 75 |
| Maximum RMS Voltage | $V_{RMS}$ | V | 75 |
| Reverse Breakdown voltage @$I_R$=100μA | $V_{(BR)R}$ | V | 75 |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | mA | 250 |
| Repetitive peak forward current | $I_{FRM}$ | mA | 500 |
| Non-Repetitive Peak forward surge current @$t_p$=1.0μs | $I_{FSM}$ | A | 2..0 |
| Non-Repetitive Peak forward surge current @$t_p$=1.0s | | | 1.0 |
| Power Dissipation | $P_d$ | mW | 150 |
| Storage temperature | $T_{stg}$ | °C | -55 ~+150 |
| Junction temperature | $T_j$ | °C | 150 |
| Typical thermal resistance | $R_{\theta J-A}$ | °C /W | 833 |

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## Electrical Characteristics (Ta=25°C Unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | UNIT | Min | Type | Max |
|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage | $I_F$=1mA | $V_F$ | V | — | — | 0.715 |
| | $I_F$=10mA | | | — | — | 0.855 |
| | $I_F$=50mA | | | — | — | 1.00 |
| | $I_F$=150mA | | | — | — | 1.25 |
| Reverse Leakage Current | $V_R$=25V | $I_{R1}$ | nA | — | — | 30.0 |
| | $V_R$=75V | $I_{R2}$ | μA | — | — | 1.0 |
| Total capacitance | $V_R$=0V,f=1MHz | $C_T$ | pF | — | — | 1.0 |
| Maxinum reverse recovery time | $I_F$=$I_R$=10mA,$I_{rr}$=0.1×$I_R$, $R_L$=100Ω | $T_{rr}$ | ns | — | — | 4.0 |

## Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

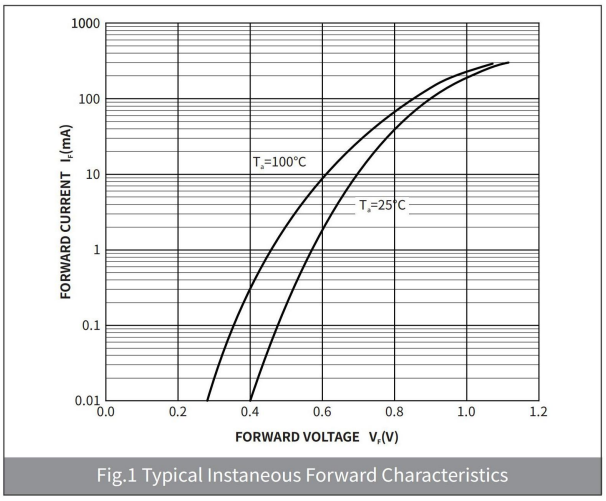



Fig.1 Typical Instaneous Forward Characteristics

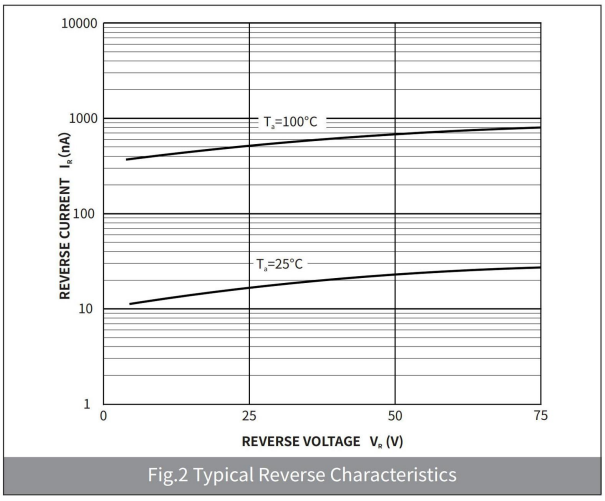



Fig.2 Typical Reverse Characteristics

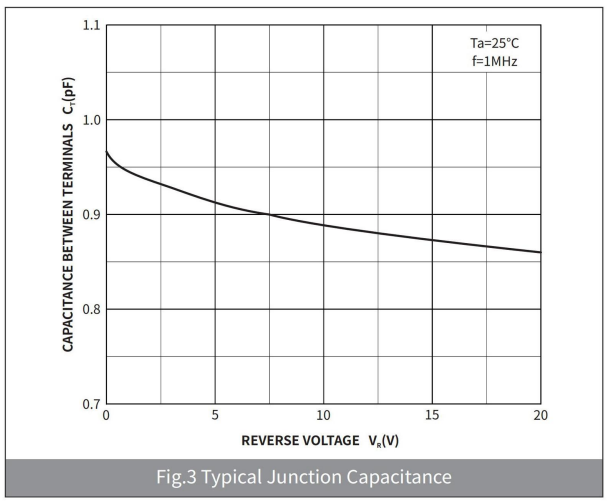



Fig.3 Typical Junction Capacitance

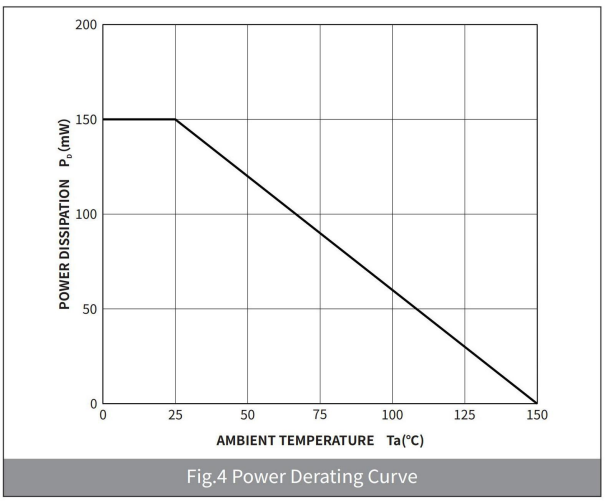


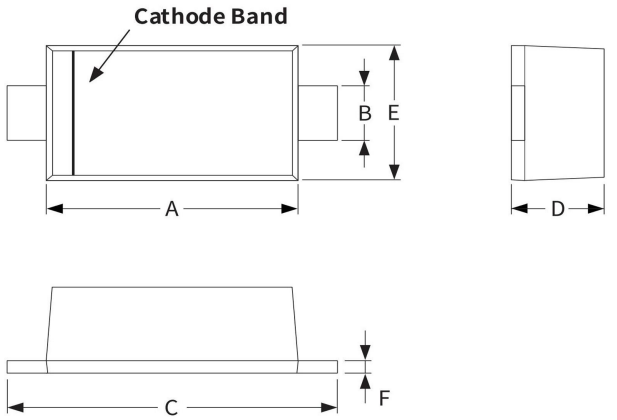

Fig.4 Power Derating Curve

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## Ordering Information

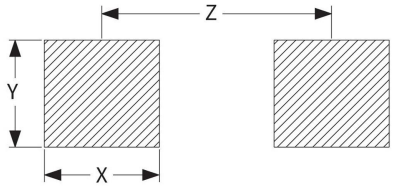
| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| SOD-523 | R1 | 0.002 | 3000 | 30000 | 240000 | 7" |

## Package Outline Dimensions (SOD-523)




| Symbol | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min | Max | Min | Max |
| A | 1.10 | 1.30 | 0.043 | 0.051 |
| B | 0.25 | 0.35 | 0.010 | 0.014 |
| C | 1.50 | 1.70 | 0.059 | 0.067 |
| D | 0.50 | 0.70 | 0.020 | 0.027 |
| E | 0.70 | 0.90 | 0.027 | 0.035 |
| F | 0.05 | 0.20 | 0.002 | 0.008 |

## Suggested Pad Layout




| Symbol | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| X | 0.55 | 0.65 | 0.022 | 0.026 |
| Y | 0.65 | 0.75 | 0.026 | 0.029 |
| Z | 1.37 | 1.47 | 0.054 | 0.058 |