# MSKSEMI
## SEMICONDUCTOR

ESD  TVS  TSS  MOV  GDT  PLED

# Product data sheet

**SOD-523**

MARKING:S1

## BAS716     FAST SWITCHING DIODE

### FEATURES

- Small Package
- Low Reverse Current
- Fast Switching Speed
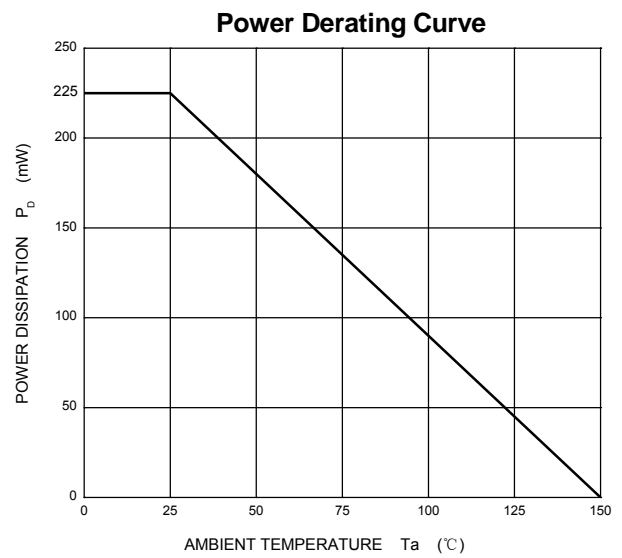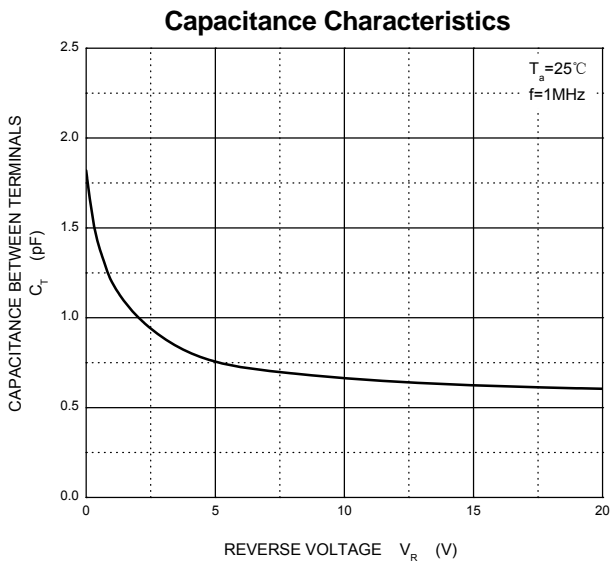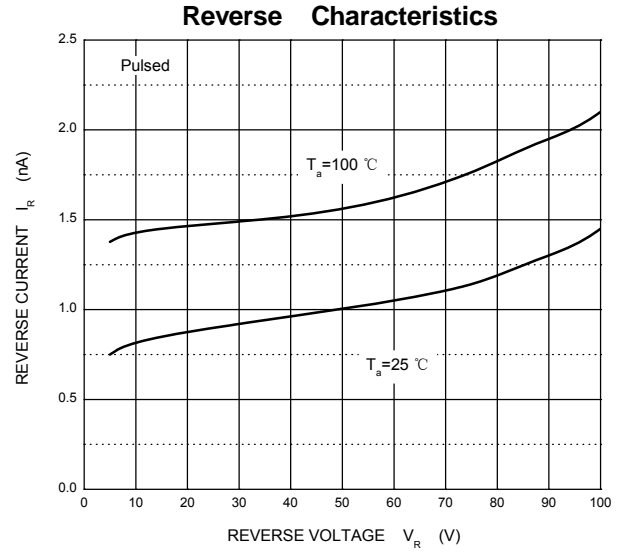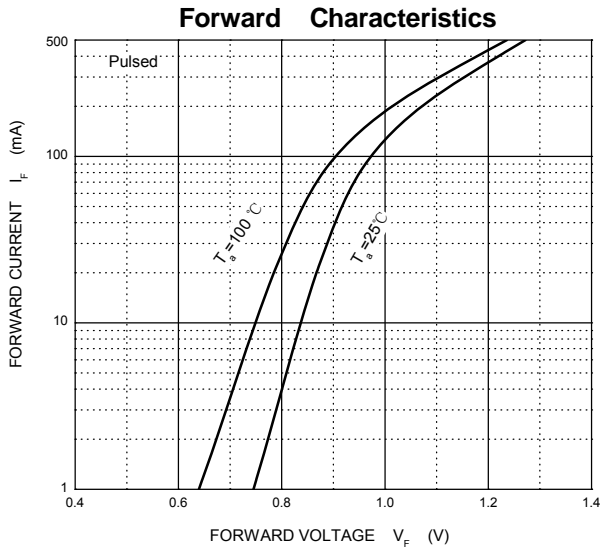- Surfce Mount Package Ideally Suited for Automatic Insetion

## MAXIMUM RATINGS ( $T_a$=25℃ unless otherwise noted )

| Symbol | Paramete | Value | Unit |
|---|---|---|---|
| $V_{RM}$ | Non-Repetitive Peak Reverse Voltage | 100 | V |
| $V_{RRM}$ | Peak Repetitive Reverse Voltage | 75 | V |
| $V_{RWM}$ | Working Peak Reverse Voltage | | |
| $V_{R(RMS)}$ | RMS Reverse Voltage | 53 | V |
| $I_O$ | Average Rectified Output Current | 200 | mA |
| $I_{FSM}$ | Non-Rpetitive Peak Forward Surge Current @t=8.3ms | 1 | A |
| $P_D$ | Power Dissipation | 225 | mW |
| $R_{\Theta JA}$ | Thermal Resistance from Junction to Ambient | 556 | ℃/W |
| $T_j$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~+150 | ℃ |

## ELECTRICAL CHARACTERISTICS($T_a$=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Reverse voltage | $V_{(BR)}$ | $I_R$=100μA | 75 | | | V |
| Reverse current | $I_R$ | $V_R$=75V | | | 5 | nA |
| | | $V_R$=100V | | | 80 | nA |
| Forward voltage | $V_F$ | $I_F$=1mA | | | 0.9 | V |
| | | $I_F$=10mA | | | 1 | V |
| | | $I_F$=50mA | | | 1.1 | V |
| | | $I_F$=150mA | | | 1.25 | V |
| Total capacitance | $C_{tot}$ | $V_R$=0V,f=1MHz | | 2 | | pF |
| Reverse recovery time | $t_{rr}$ | $I_F$= $I_R$ =10mA, $I_{rr}$=0.1*$I_R$ | | | 3 | μs |

# Typical Characteristics

## Forward Characteristics



## Reverse Characteristics



## Capacitance Characteristics



## Power Derating Curve

## PACKAGE MECHANICAL DATA
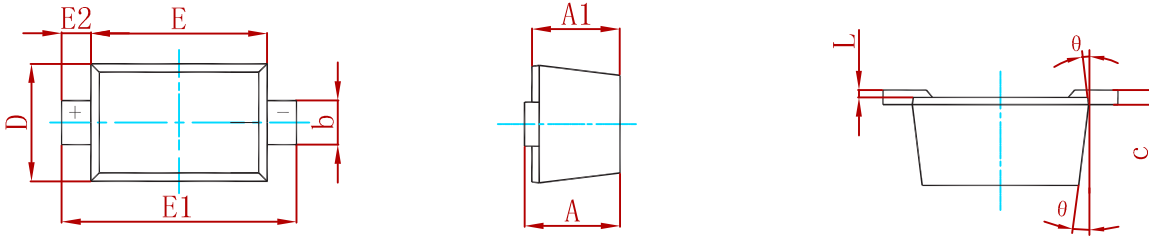


| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.510 | 0.770 | 0.020 | 0.031 |
| A1 | 0.500 | 0.700 | 0.020 | 0.028 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 0.750 | 0.850 | 0.030 | 0.033 |
| E | 1.100 | 1.300 | 0.043 | 0.051 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E2 | 0.200 REF | | 0.008 REF | |
| L | 0.010 | 0.070 | 0.001 | 0.003 |
| θ | 7° REF | | 7° REF | |

## Suggested Pad Layout



0.6

0.7

1.42
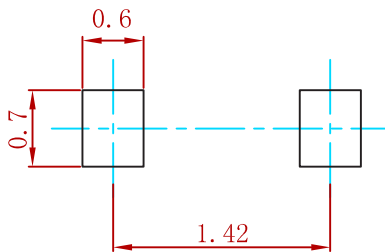
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

## REEL SPECIFICATION

| P/N | PKG | QTY |
|---|---|---|
| BAS716 | SOD-523 | 3000 |

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