

## 2A, 40V - 60V Schottky Bridge Rectifier

### FEATURES

- AEC-Q101 qualified available
- Schottky technology
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

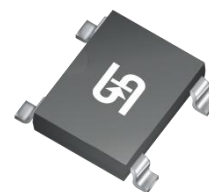
### APPLICATIONS

- Charging circuit
- Power over Ethernet
- Lighting application

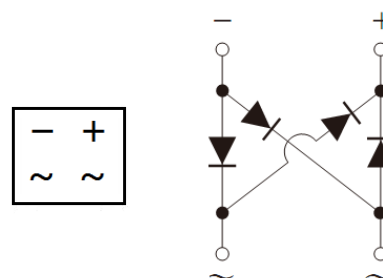
### MECHANICAL DATA

- Case: ABS
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.090g (approximately)

| KEY PARAMETERS |         |      |
|----------------|---------|------|
| PARAMETER      | VALUE   | UNIT |
| $I_F$          | 2       | A    |
| $V_{RRM}$      | 40 - 60 | V    |
| $I_{FSM}$      | 50      | A    |
| $T_{J\ MAX}$   | 150     | °C   |
| Package        | ABS     |      |
| Configuration  | Quad    |      |



ABS



| ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)        |              |              |       |       |                      |
|--|--------------|--------------|-------|-------|----------------------|
| PARAMETER  | SYMBOL       | SBS24        | SBS25 | SBS26 | UNIT                 |
| Marking code on the device   |              | SBS24        | SBS25 | SBS26 |                      |
| Repetitive peak reverse voltage  | $V_{RRM}$    | 40           | 50    | 60    | V                    |
| Reverse voltage, total rms value   | $V_{R(RMS)}$ | 28           | 35    | 42    | V                    |
| Forward current  | $I_F$        | 2            |       |       | A                    |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$    | 50           |       |       | A                    |
| Rating for fusing ( $t < 8.3\text{ms}$ )   | $I^2t$       | 10.37        |       |       | $\text{A}^2\text{s}$ |
| Junction temperature   | $T_J$        | - 55 to +150 |       |       | °C                   |
| Storage temperature  | $T_{STG}$    | - 55 to +150 |       |       | °C                   |

| <b>THERMAL PERFORMANCE</b>             |                 |            |             |
|--|-----------------|------------|-------------|
| <b>PARAMETER</b>                       | <b>SYMBOL</b>   | <b>TYP</b> | <b>UNIT</b> |
| Junction-to-lead thermal resistance    | $R_{\theta JL}$ | 30         | °C/W        |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 75         | °C/W        |

| <b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |                |   |               |            |            |               |
|---|----------------|---|---------------|------------|------------|---------------|
| <b>PARAMETER</b>  |                | <b>CONDITIONS</b>                         | <b>SYMBOL</b> | <b>TYP</b> | <b>MAX</b> | <b>UNIT</b>   |
| Forward voltage per diode <sup>(1)</sup>  | SBS24<br>SBS25 | $I_F = 2\text{A}, T_J = 25^\circ\text{C}$ | $V_F$         | -          | 0.50       | V             |
|   | SBS26          |   |               | -          | 0.70       | V             |
| Reverse current @ rated $V_R$ per diode <sup>(2)</sup>                              | SBS24<br>SBS25 | $T_J = 25^\circ\text{C}$                  | $I_R$         | -          | 100        | $\mu\text{A}$ |
|   | SBS26          |   |               | -          | 50         | $\mu\text{A}$ |

**Notes:**

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

| <b>ORDERING INFORMATION</b>            |                |                     |
|--|----------------|---------------------|
| <b>ORDERING CODE</b> <sup>(1)(2)</sup> | <b>PACKAGE</b> | <b>PACKING</b>      |
| SBS2x                                  | ABS            | 5,000 / Tape & Reel |
| SBS2xH                                 | ABS            | 5,000 / Tape & Reel |

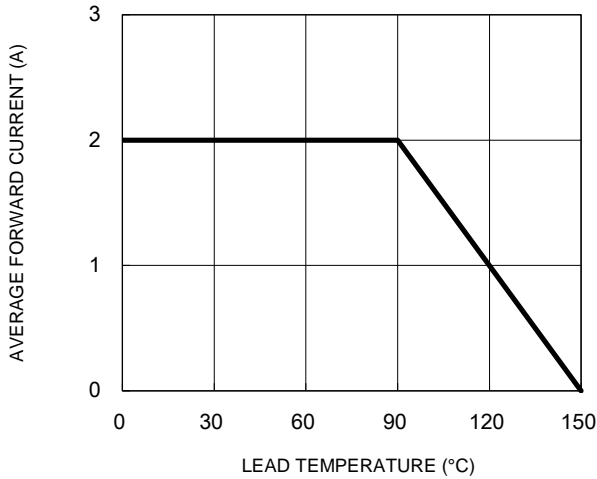
**Notes:**

1. "x" defines voltage from 40V(SBS24) to 60V(SBS26)
2. "H" means AEC-Q101 qualified

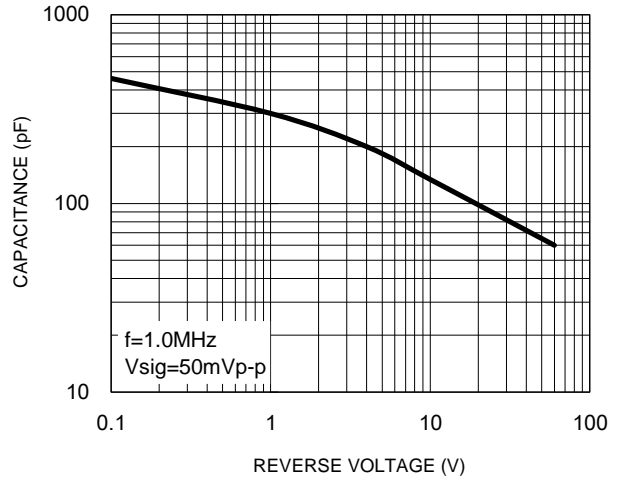
**CHARACTERISTICS CURVES**

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

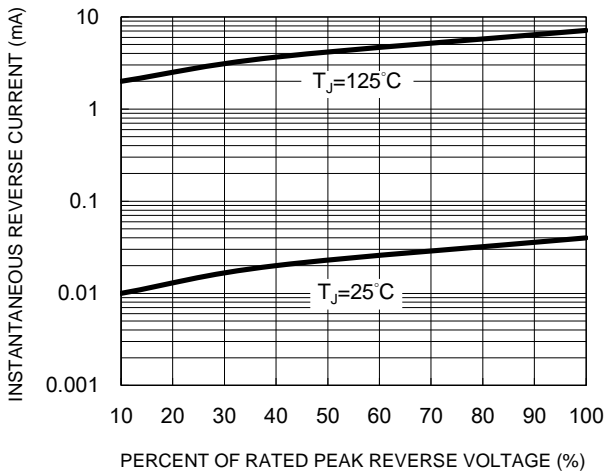
**Fig.1 Forward Current Derating Curve**



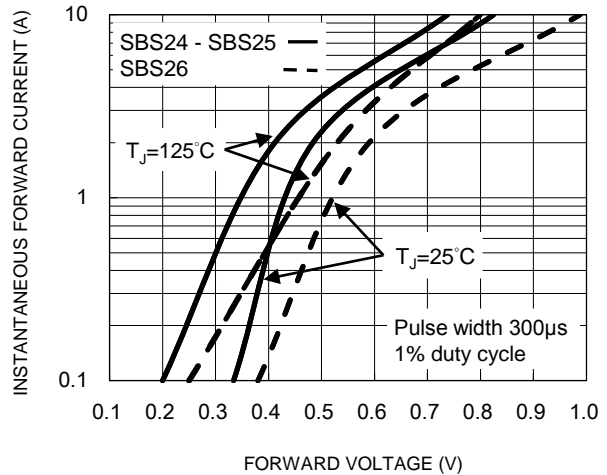
**Fig.2 Typical Junction Capacitance**



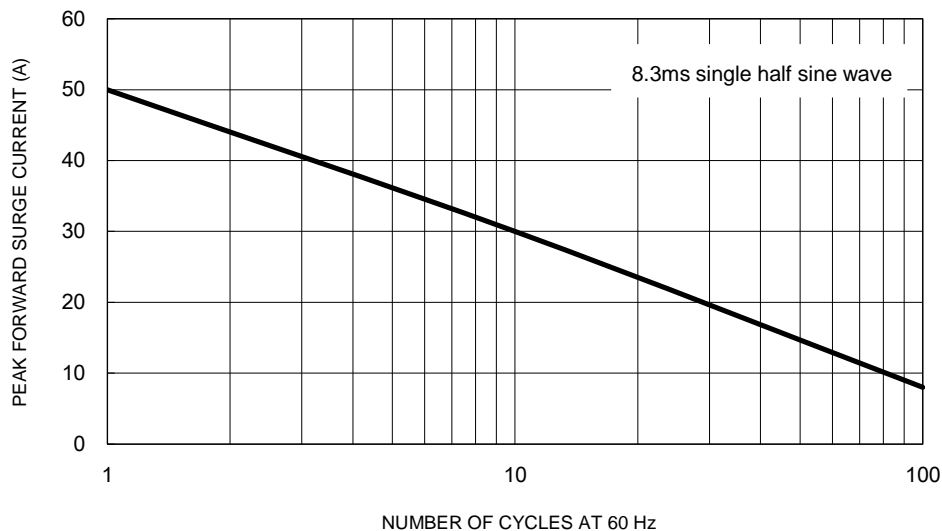
**Fig.3 Typical Reverse Characteristics**



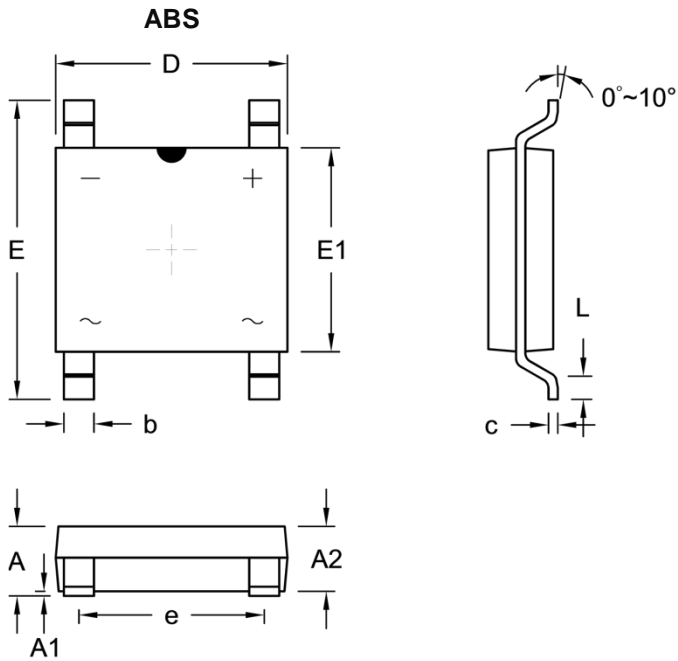
**Fig.4 Typical Forward Characteristics**



**Fig.5 Maximum Non-Repetitive Forward Surge Current**

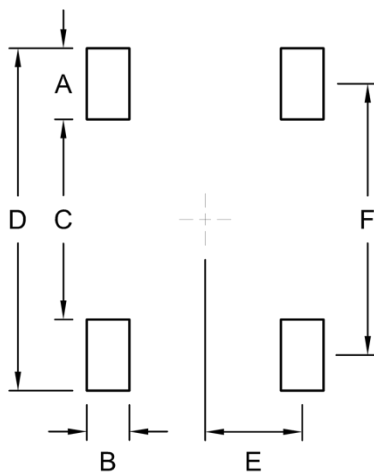


**PACKAGE OUTLINE DIMENSIONS**



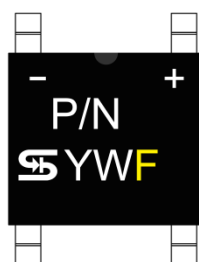
| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min.      | Max. | Min.        | Max.  |
| A    | 1.40      | 1.60 | 0.055       | 0.063 |
| A1   | 0.05      | 0.15 | 0.002       | 0.006 |
| A2   | 1.35      | 1.45 | 0.053       | 0.057 |
| b    | 0.60      | 0.70 | 0.024       | 0.028 |
| c    | 0.15      | 0.25 | 0.006       | 0.010 |
| D    | 4.90      | 5.10 | 0.193       | 0.201 |
| E    | 6.25      | 6.65 | 0.246       | 0.262 |
| E1   | 4.30      | 4.50 | 0.169       | 0.177 |
| e    | 3.90      | 4.10 | 0.154       | 0.161 |
| L    | 0.30      | 0.70 | 0.012       | 0.028 |

**SUGGESTED PAD LAYOUT**



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.50      | 0.059       |
| B      | 0.90      | 0.035       |
| C      | 4.22      | 0.166       |
| D      | 7.22      | 0.284       |
| E      | 2.05      | 0.081       |
| F      | 5.72      | 0.225       |

**MARKING DIAGRAM**



P/N = Marking Code  
 YW = Date Code  
 F = Factory Code

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