

# TB1S-10 THRU TB10S-10

## 1A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

### FEATURES:

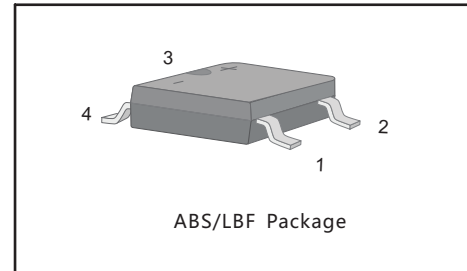
- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 1 A
- High Surge Current Capability
- Designed for Surface Mount Application

### MECHANICAL DATA

- Case: ABS/LBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 88mg 0.0029oz

### PINNING

| PIN | DESCRIPTION          |
|-----|----------------------|
| 1   | Input Pin ( ~ )      |
| 2   | Input Pin ( ~ )      |
| 3   | Output Anode ( + )   |
| 4   | Output Cathode ( - ) |

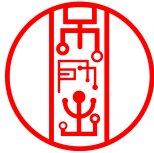


### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

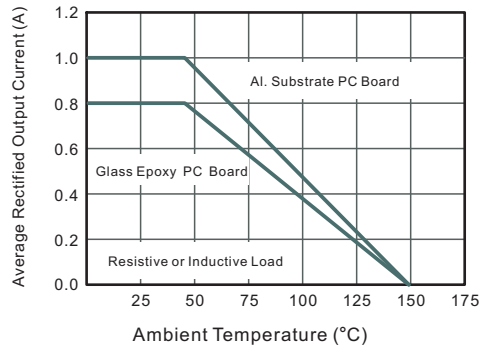
| Parameter                                                                                                                                                                            | Symbols                            | TB1S-10           | TB2S-10 | TB4S-10 | TB6S-10 | TB8S-10 | TB10S-10 | Units                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------|---------|---------|---------|---------|----------|----------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                                                                                              | $V_{RRM}$                          | 100               | 200     | 400     | 600     | 800     | 1000     | V                    |
| Maximum RMS voltage                                                                                                                                                                  | $V_{RMS}$                          | 70                | 140     | 280     | 420     | 560     | 700      | V                    |
| Maximum DC Blocking Voltage                                                                                                                                                          | $V_{DC}$                           | 100               | 200     | 400     | 600     | 800     | 1000     | V                    |
| Average Rectified Output Current<br>at $T_a = 40\text{ }^{\circ}\text{C}$                                                                                                            | $I_O$                              | 1                 |         |         |         |         |          | A                    |
| Peak Forward Surge Current 8.3 ms Single Half<br>Sine Wave Superimposed on Rated Load<br>(JEDEC Method)                                                                              | $I_{FSM}$                          | 35                |         |         |         |         |          | A                    |
| Forward Voltage per element @ $I_F = 1.0\text{ A}$                                                                                                                                   | $V_F$                              | 1.1               |         |         |         |         |          | V                    |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage<br>@ $T_A = 25\text{ }^{\circ}\text{C}$<br>@ $T_A = 100\text{ }^{\circ}\text{C}$<br>@ $T_A = 125\text{ }^{\circ}\text{C}$ | $I_R$                              | 5.0<br>100<br>500 |         |         |         |         |          | $\mu\text{A}$        |
| Typical Junction Capacitance ( Note1 )                                                                                                                                               | $C_j$                              | 13                |         |         |         |         |          | pF                   |
| Typical Thermal Resistance ( Note2 )                                                                                                                                                 | $R_{\theta JA}$<br>$R_{\theta JL}$ | 80<br>16          |         |         |         |         |          | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                                                                              | $T_j, T_{stg}$                     | $-55 \sim +150$   |         |         |         |         |          | $^{\circ}\text{C}$   |

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.  
2. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> copper pad.

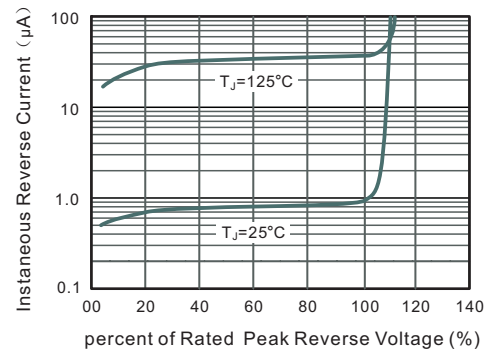


# TB1S-10 THRU TB10S-10

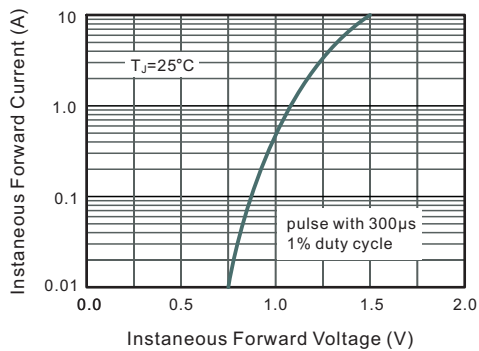
**Fig.1 Average Rectified Output Current Derating Curve**



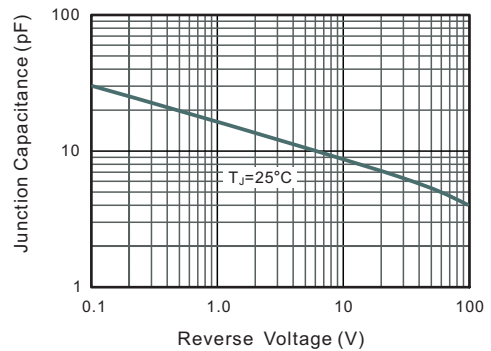
**Fig.2 Typical Reverse Characteristics**



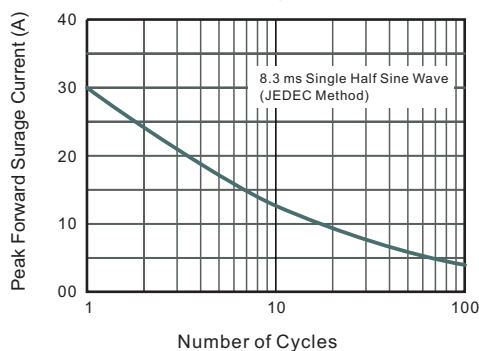
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Junction Capacitance**



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



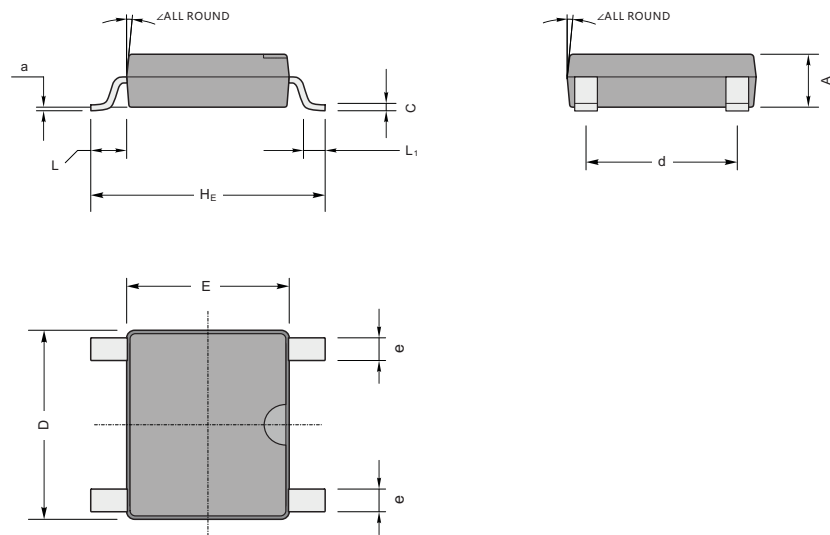


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## PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

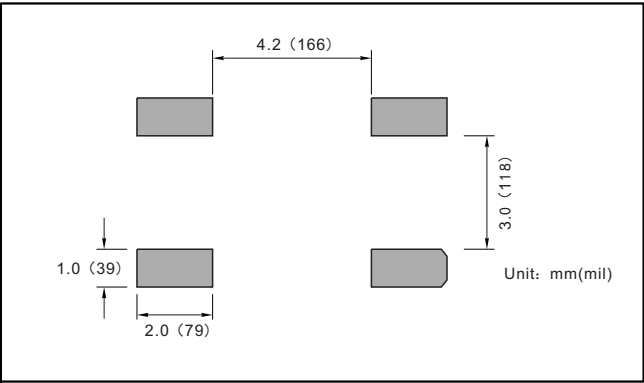
ABS/LBF



ABS/LBF mechanical data

| UNIT |     | A   | C    | D   | E   | H <sub>E</sub> | d   | e   | L    | L <sub>1</sub> | a   | ∠  |
|------|-----|-----|------|-----|-----|----------------|-----|-----|------|----------------|-----|----|
| mm   | max | 1.5 | 0.22 | 5.2 | 4.5 | 6.4            | 4.2 | 0.7 | 0.95 | 0.6            | 0.2 | 7° |
|      | min | 1.3 | 0.15 | 4.9 | 4.2 | 6.0            | 3.8 | 0.5 |      |                |     |    |
| mil  | max | 59  | 8.7  | 205 | 177 | 252            | 165 | 28  | 37   | 24             | 4   |    |
|      | min | 51  | 5.9  | 193 | 166 | 236            | 150 | 20  |      |                |     |    |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| TB1S-10     | 10T1         |
| TB2S-10     | 10T2         |
| TB4S-10     | 10T4         |
| TB6S-10     | 10T6         |
| TB8S-10     | 10T8         |
| TB10S-10    | 10T10        |

