



# UTB1SK THRU UTB10SK

## 1.0A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

### FEATURES:

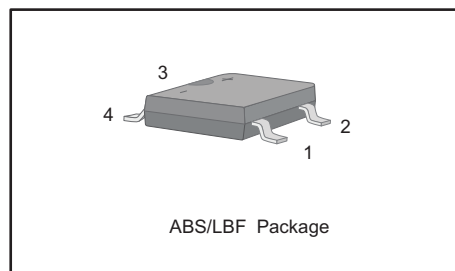
- Glass Passivated Chip Junction
- Reverse voltage - 100 to 1000 V
- Forward Current - 1.0 A
- Fast reverse recovery time
- Designed for Surface Mount Application

### 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                              | UTB1SK     | UTB2SK | UTB4SK | UTB6SK | UTB8SK | UTB10SK | Units |
|----------------------------------------------------------------------------------------------------------|--------------------------------------|------------|--------|--------|--------|--------|---------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                  | V <sub>RRM</sub>                     | 100        | 200    | 400    | 600    | 800    | 1000    | V     |
| Maximum RMS voltage                                                                                      | V <sub>RMS</sub>                     | 70         | 140    | 280    | 420    | 560    | 700     | V     |
| Maximum DC Blocking Voltage                                                                              | V <sub>DC</sub>                      | 100        | 200    | 400    | 600    | 800    | 1000    | V     |
| Average Rectified Output Current<br>at T <sub>a</sub> 125 °C                                             | I <sub>O</sub>                       | 1.0        |        |        |        |        |         | A     |
| Peak Forward Surge Current 8.3 ms Single Half<br>Sine Wave Superimposed on Rated Load<br>(JEDEC Method)  | I <sub>FSM</sub>                     | 35         |        |        |        |        |         | A     |
| Maximum Forward Voltage at 1.5 A                                                                         | V <sub>F</sub>                       | 1.0        |        | 1.3    | 1.5    |        |         | V     |
| Maximum DC Reverse Current T <sub>a</sub> = 25 °C<br>at Rated DC Blocking Voltage T <sub>a</sub> =125 °C | I <sub>R</sub>                       | 5.0<br>100 |        |        |        |        |         | μA    |
| Typical Junction Capacitance 1)                                                                          | C <sub>j</sub>                       | 18         |        |        |        |        |         | pF    |
| Maximum Reverse Recovery Time 2)                                                                         | t <sub>rr</sub>                      | 50         |        |        | 75     |        |         | ns    |
| Typical Thermal Resistance 3)                                                                            | R <sub>θJA</sub><br>R <sub>θJC</sub> | 72<br>20   |        |        |        |        |         | °C/W  |
| Operating and Storage Temperature Range                                                                  | T <sub>j</sub> T <sub>stg</sub>      | -55 ~ +150 |        |        |        |        |         | °C    |

1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

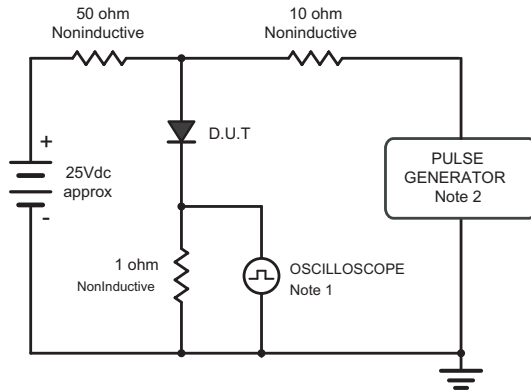
2 ) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_T = 0.25\text{ A}$

3 ) P.C.B. mounted with  $4 \times 1.5" \times 1.5"$  (  $3.81 \times 3.81\text{ cm}$  ) copper pad areas.

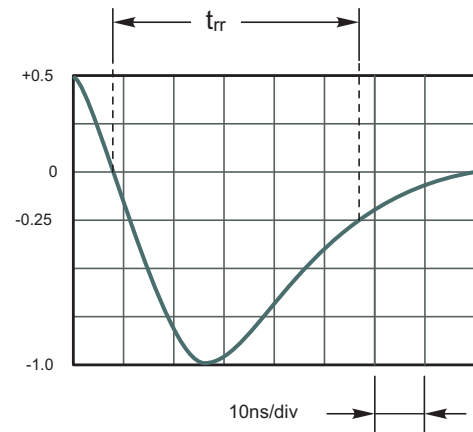


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**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
Time = 10ns, max.  
Source Impedance = 50 ohms.



Set time Base for 10ns/div

**Fig.2 Maximum Average Forward Current Rating**

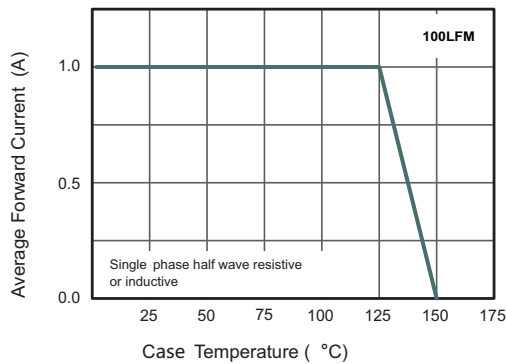


**Fig.3 Typical Reverse Characteristics**

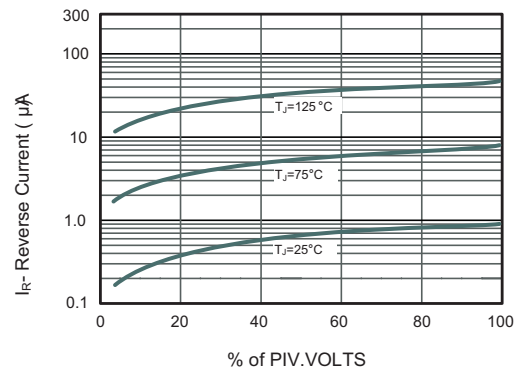


**Fig.3 Typical Instantaneous Forward Characteristics**

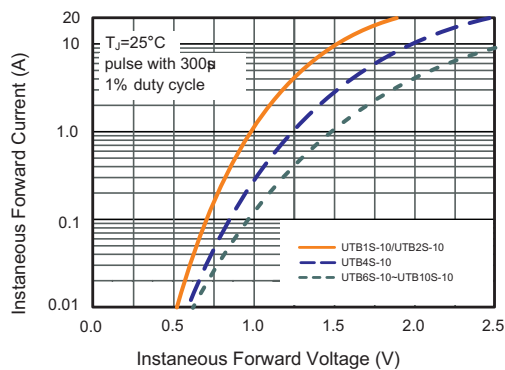
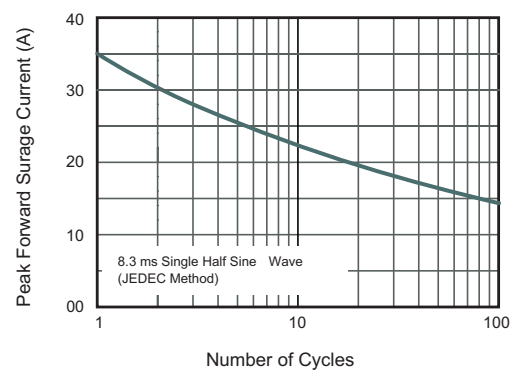


**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



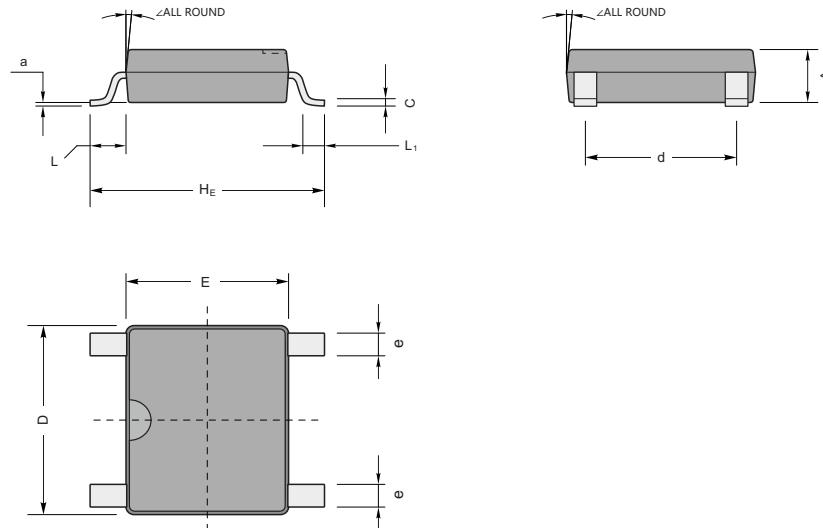


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## PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

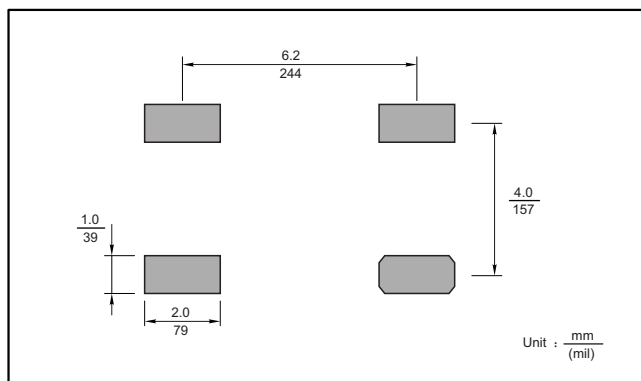
ABS/LBF



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             | 8   |    |
|      | min | 51  | 5.9  | 193 | 166 | 236            | 150 | 20  |      |                |     |    |

## The recommended mounting pad size



## Marking

| Type number | Marking code |
|-------------|--------------|
| UTB1SK      | U10T1        |
| UTB2SK      | U10T2        |
| UTB4SK      | U10T4        |
| UTB6SK      | U10T6        |
| UTB8SK      | U10T8        |
| UTB10SK     | U10T10       |