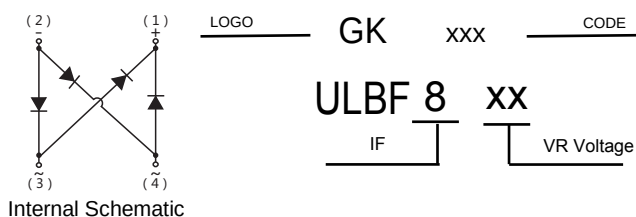


## FEATURES

- Glass Passivated Chip Junction
- Reverse Voltage - 800 & 1000 V
- Forward Current - 8.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

## MECHANICAL DATA

- Case: ULBF
- Terminals: Solderable per MIL-STD-750, Method 2026



## 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 %.

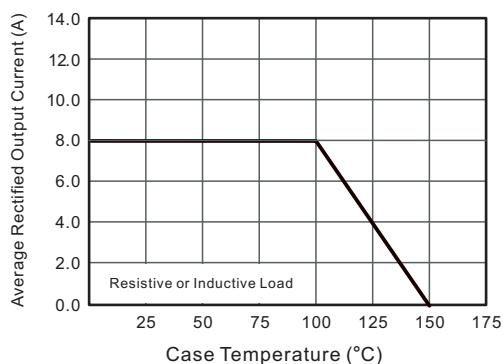
| Parameter                                                                                                                            | Symbols                                               | ULBF808        | ULBF810 | Units                |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------|---------|----------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                                              | $V_{RRM}$                                             | 800            | 1000    | V                    |
| Maximum RMS voltage                                                                                                                  | $V_{RMS}$                                             | 560            | 700     | V                    |
| Maximum DC Blocking Voltage                                                                                                          | $V_{DC}$                                              | 800            | 1000    | V                    |
| Average Rectified Output Current                                                                                                     | $I_O$                                                 | 8.0            |         | A                    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)                                    | $I_{FSM}$                                             | 220            |         | A                    |
| $I^2t$ Rating for Fusing                                                                                                             | $I^2t$                                                | 200            |         | A <sup>2</sup> S     |
| Maximum Forward Voltage at 1.0 A                                                                                                     | $V_F$                                                 | 0.81 (typ.)    |         | V                    |
| Maximum Forward Voltage at 4.0 A                                                                                                     | $V_F$                                                 | 1.0            |         | V                    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>@ $T_A=25\text{ }^{\circ}\text{C}$<br>@ $T_A=125\text{ }^{\circ}\text{C}$ | $I_R$                                                 | 5<br>100       |         | $\mu\text{A}$        |
| Typical Junction Capacitance ( Note1 )                                                                                               | $C_j$                                                 | 60             |         | pF                   |
| Typical Thermal Resistance ( Note2 )                                                                                                 | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 60<br>10<br>12 |         | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                              | $T_j, T_{stg}$                                        | -55 ~ +150     |         | $^{\circ}\text{C}$   |

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

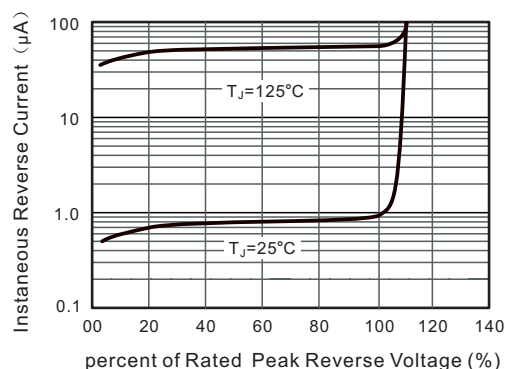
2. Mounted on glass epoxy PC board with 4×1.5"×1.5" ( 3.81×3.81 cm ) copper pad.

## RATING AND CHARACTERISTIC CURVES

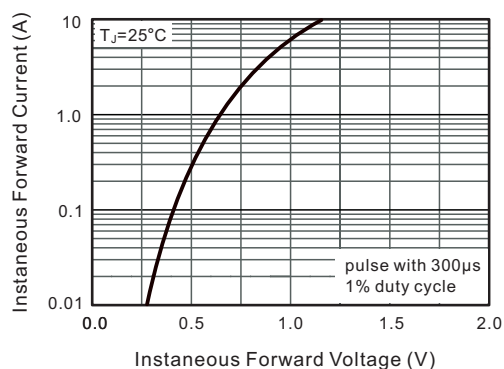
**Fig.1 Average Rectified Output Current Derating Curve**



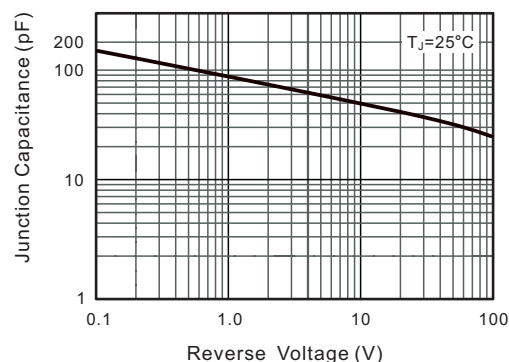
**Fig.2 Typical Reverse Characteristics**



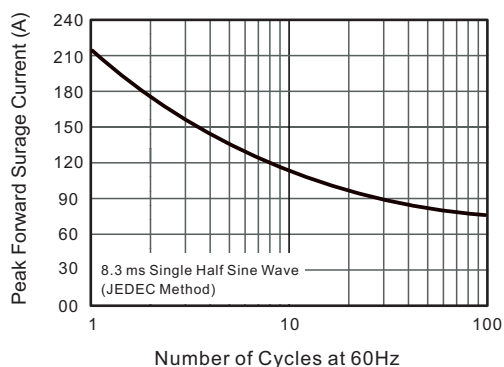
**Fig.3 Typical Instaneous Forward Characteristics**



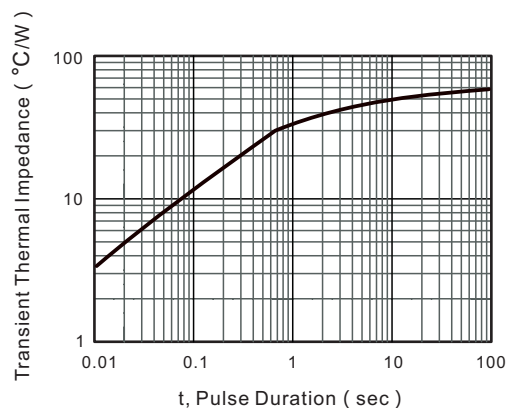
**Fig.4 Typical Junction Capacitance**



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

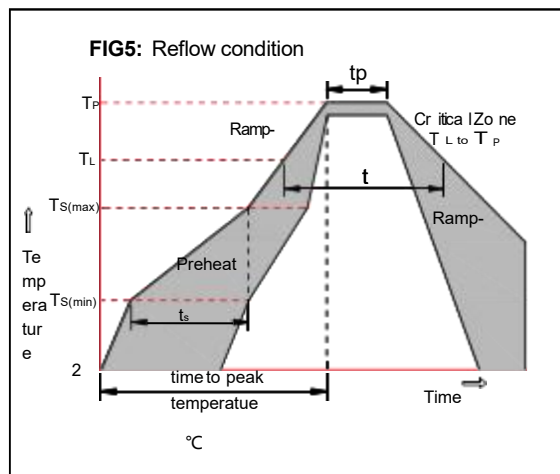


**Fig.6- Typical Transient Thermal Impedance**



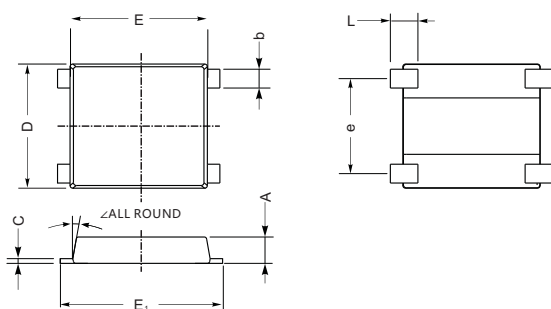
## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature( $T_L$ )(Liquid us)  | +217 °C                            |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_P$ )          |                                   | 30 secs. Max                       |
| Ramp-down Rate                                          |                                   | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                         |
| Do not exceed                                           |                                   | +260 °C                            |

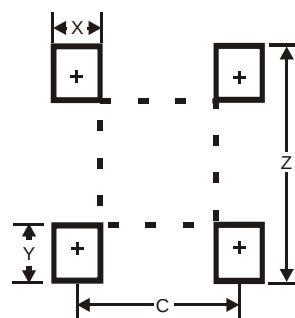


## Package Dimensions & Suggested Pad Layout

### UMSB

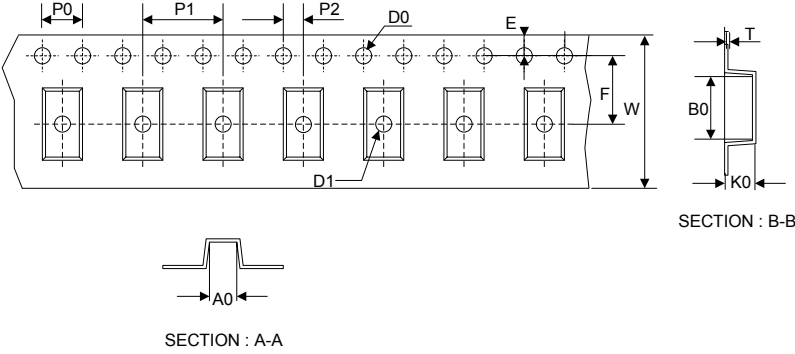
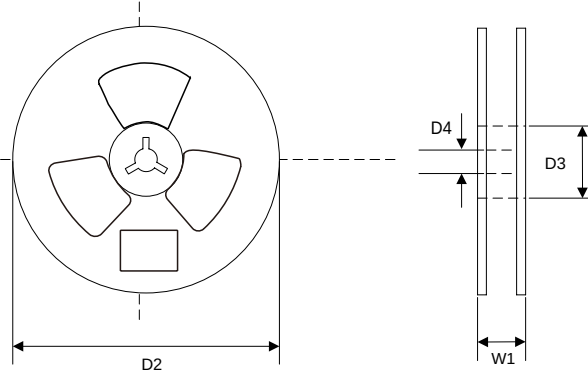


| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | L    | e   | b    | ∠   |
|------|-----|-----|------|-----|-----|----------------|------|-----|------|-----|
| mm   | max | 1.5 | 0.29 | 7.0 | 7.6 | 8.9            | 1.6  | 5.3 | 1.15 | 10° |
|      | min | 1.3 | 0.17 | 6.2 | 7.1 | 8.4            | 1.0  | 4.9 | 0.95 |     |
| mil  | max | 59  | 12   | 276 | 299 | 350            | 55   | 209 | 45   |     |
|      | min | 51  | 7    | 244 | 280 | 331            | 31.5 | 193 | 37   |     |



| Dimensions |     |
|------------|-----|
| Z          | 9.4 |
| X          | 1.8 |
| Y          | 2.1 |
| C          | 5.1 |

## Tape & reel specification

| Tape                                                                               |  | Symbol            | Dimension (mm) |
|------------------------------------------------------------------------------------|--|-------------------|----------------|
|   |  | P0                | 4.00±0.20      |
|                                                                                    |  | P1                | 12.00±0.20     |
|                                                                                    |  | P2                | 2.00±0.20      |
|                                                                                    |  | D0                | 1.60±0.15      |
|                                                                                    |  | D1                | 1.60±0.15      |
|                                                                                    |  | E                 | 1.75±0.20      |
|                                                                                    |  | F                 | 7.50±0.15      |
|                                                                                    |  | W                 | 16.00±0.20     |
|                                                                                    |  | A0                | 7.00±0.25      |
|                                                                                    |  | B0                | 9.30±0.25      |
|                                                                                    |  | K0                | 1.80±0.25      |
|                                                                                    |  | T                 | 0.25±0.10      |
|                                                                                    |  | D2                | 330.0±5.0      |
|                                                                                    |  | D3                | 73Min.         |
| 13" Reel                                                                           |  | D4                | 16.0±2.5       |
|  |  | W1                | 21.0±3.0       |
|                                                                                    |  | Quantity: 3000PCS |                |