



## 6A SURFACE MOUNT BRIDGE RECTIFIER

### FEATURES:

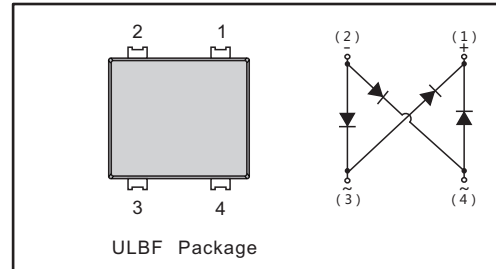
- Reverse Voltage - 1000 V
- Forward Current - 6.0 A
- Fast reverse recovery time
- Designed for Surface Mount Application

### MECHANICAL DATA

- Case: ULBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.461g / 0.0163oz

### PINNING

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



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| PARAMETER                                                                                         | SYMBOL          | ULBFR610   | Units                |
|---------------------------------------------------------------------------------------------------|-----------------|------------|----------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$       | 1000       | V                    |
| Maximum RMS voltage                                                                               | $V_{RMS}$       | 700        | V                    |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$        | 1000       | V                    |
| Average Rectified Output Current at $T_c = 100^\circ\text{C}$                                     | $I_o$           | 6.0        | A                    |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$       | 200        | A                    |
| $I^2t$ Rating for Fusing                                                                          | $I^2t$          | 166        | $\text{A}^2\text{S}$ |
| Typical Thermal Resistance <sup>(1)</sup>                                                         | $R_{\theta JA}$ | 60         | $^\circ\text{C/W}$   |
|                                                                                                   | $R_{\theta JC}$ | 6          |                      |
|                                                                                                   | $R_{\theta JL}$ | 14         |                      |
| Operating and Storage Temperature Range                                                           | $T_j, T_{stg}$  | -55 ~ +150 | $^\circ\text{C}$     |

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

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| PARAMETER                              | SYMBOL   | TEST CONDITIONS                                                                         | MIN    | TYP        | MAX      | Units         |
|----------------------------------------|----------|-----------------------------------------------------------------------------------------|--------|------------|----------|---------------|
| Instantaneous forward voltage          | $V_F$    | $I_F = 1\text{A}$ $T_J = 25^\circ\text{C}$                                              | —      | 0.83       | —        | V             |
|                                        |          | $I_F = 6\text{A}$ $T_J = 25^\circ\text{C}$                                              | —      | 0.95       | 1.1      |               |
|                                        |          | $I_F = 1\text{A}$ $T_J = 125^\circ\text{C}$                                             | —      | 0.70       | —        |               |
|                                        |          | $I_F = 6\text{A}$ $T_J = 125^\circ\text{C}$                                             | —      | 0.85       | —        |               |
| Reverse current at DC blocking voltage | $I_R$    | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$                                   | —<br>— | 0.15<br>40 | 1<br>200 | $\mu\text{A}$ |
| Maximum Reverse Recovery Time          | $t_{rr}$ | Measured with<br>$I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ ,<br>$I_{rr} = 0.25\text{A}$ . | —      | —          | 500      | ns            |
| Typical Junction Capacitance           | $C_j$    | $f = 1\text{MHz}$ , $V_R = 4\text{V DC}$<br>$T_J = 25^\circ\text{C}$                    | —      | 100        | —        | pF            |



Fig.1 Average Rectified Output Current Derating Curve

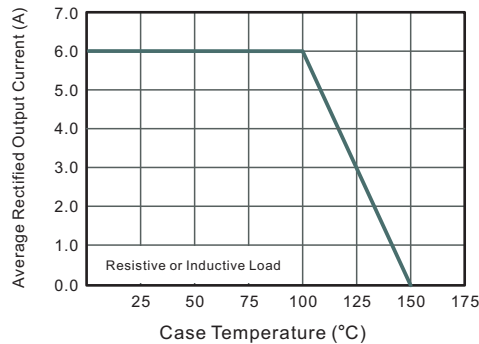


Fig.2 Typical Reverse Characteristics

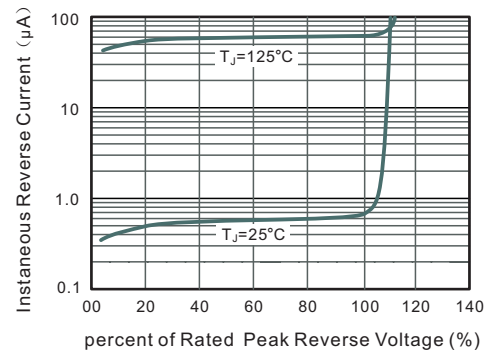


Fig.3 Typical Instantaneous Forward Characteristics

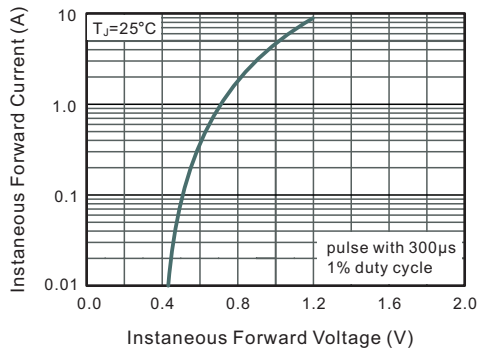


Fig.4 Typical Junction Capacitance

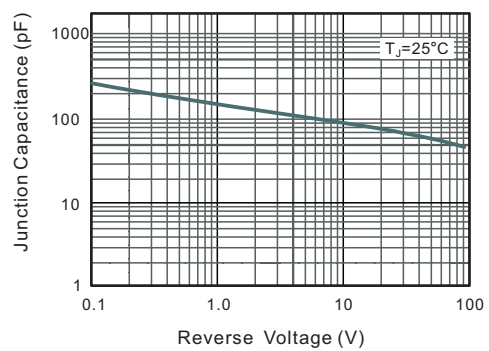


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

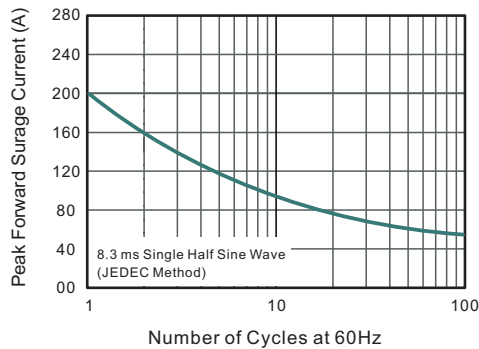
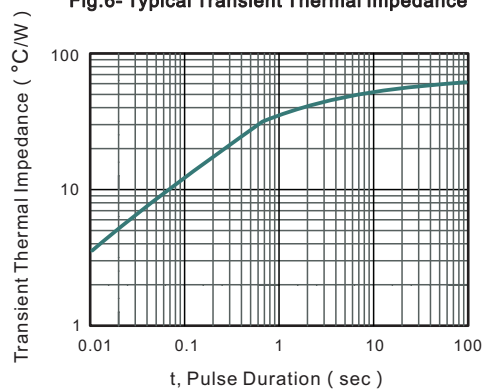


Fig.6- Typical Transient Thermal Impedance

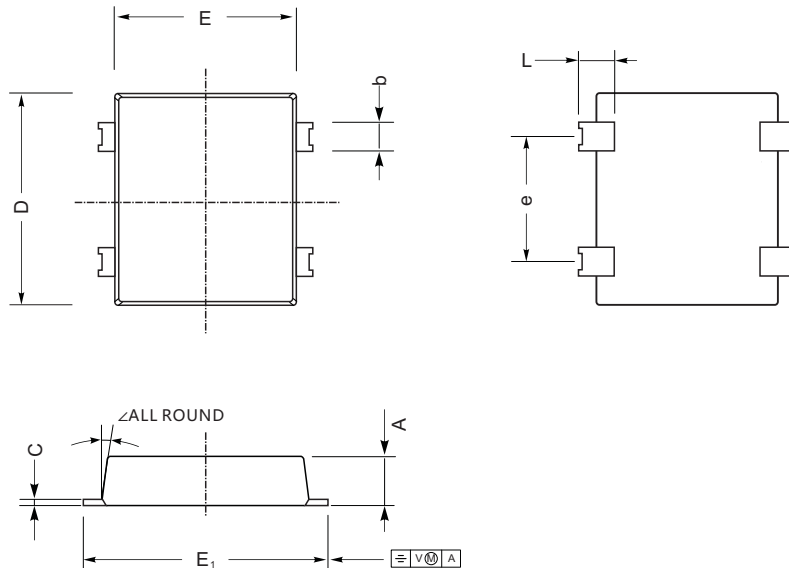




## PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

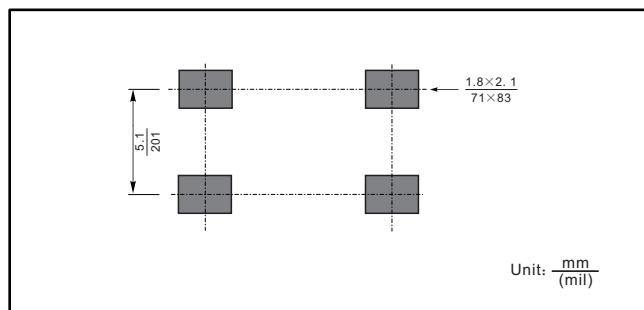
ULBF



ULBF mechanical data

| UNIT |     | A    | C    | D   | E   | E <sub>1</sub> | L    | e   | b    | ∠   |
|------|-----|------|------|-----|-----|----------------|------|-----|------|-----|
| mm   | max | 1.75 | 0.55 | 9.8 | 8.8 | 10.2           | 1.25 | 5.3 | 1.55 | 10° |
|      | min | 1.35 | 0.25 | 9.4 | 8.4 | 9.8            | 0.85 | 4.9 | 1.25 |     |
| mil  | max | 68   | 21.6 | 385 | 346 | 401            | 49   | 209 | 61   |     |
|      | min | 53   | 9.8  | 370 | 330 | 385            | 33   | 193 | 49   |     |

## The recommended mounting pad size



## Marking

| Type number | Marking code |
|-------------|--------------|
| ULBFR610    | ULBFR610     |