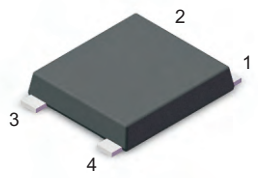
# XBS30M

## Ultrasoft Recovery Bridge




MSB Package

### Features

- Ultrasoft recovery
- low $I_{RRM}$
- low VF
- High $V_{RRM}$
- Special frame design for heat dissipation

- Reduced EMI
- Reduced power loss and switching transistor
- Reduced snubbing

### PINNING

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

**Maximum Ratings and Electrical characteristics**

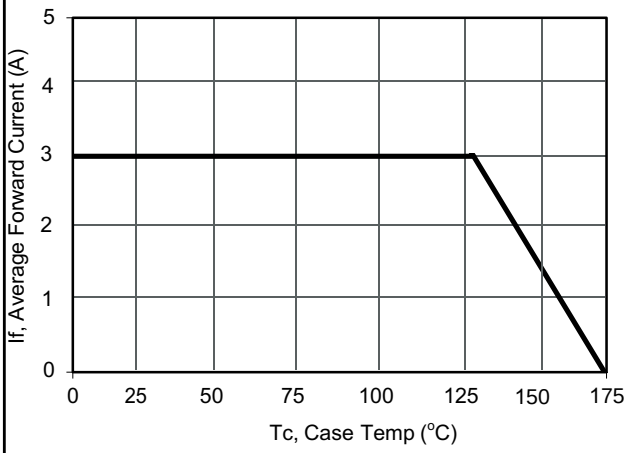
Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

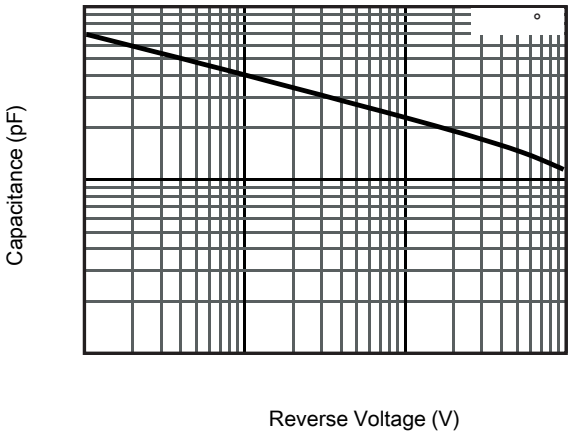
| Parameter | Symbols | XBS30J | XBS30K | XBS30M | Units |
|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 600 | 800 | 1000 | V |
| Maximum RMS voltage | $V_{RMS}$ | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 600 | 800 | 1000 | V |
| Average Rectified Output Current | $I_O$ | 3.0 | | | A |
| Reverse Recovery Time.IF=0.5A,IR=1A,IRR=0.25A | Trr | 10 | | | us |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$ | 140 | | | A |
| $I^2t$ rating for fusing ( 1ms< t < 10ms) | $I^2t$ | 98 | | | $A^2S$ |
| Maximum Forward Voltage at 1.5 A | $V_F$ | 1.0 | | | V |
| Maximum DC Reverse Current @$T_A$=25 °C<br>at Rated DC Blocking Voltage @$T_A$=125 °C | $I_R$ | 5<br>100 | | | μA |
| Typical Junction Capacitance ( Note1 ) | $C_j$ | 40 | | | pF |
| Operating and Storage Temperature Range | $T_j$, $T_{stg}$ | -55 ~ +175 | | | °C |
| Typical thermal resistance (Note 2) | $RthJ_C$<br>$RthJ_A$ | 6<br>12 | | | °C/W |

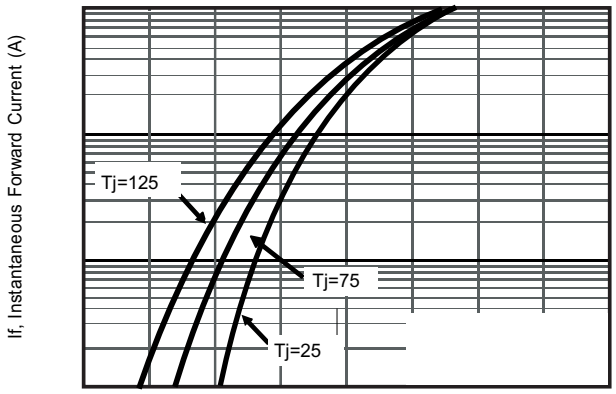
Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.

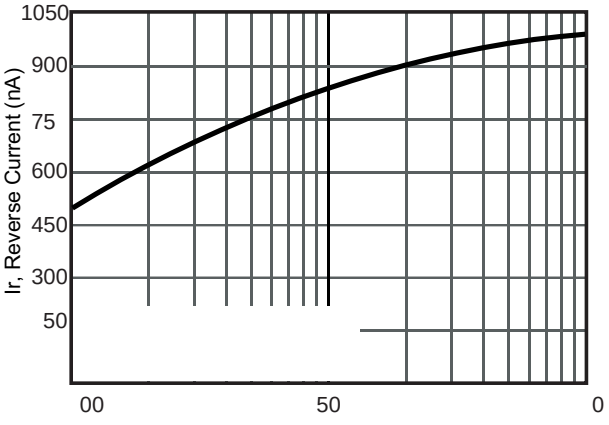
2. Thermal resistance from Junction to case,lead and ambient in accordance with JESD-51.
Unit mounted on 15mm*12mm*1.6mm AL pad attach 195mm*195mm*10mm steel plate

## RATINGS AND CHARACTERISTICS CURVES (TA = 25 ˚C unless otherwise noted)

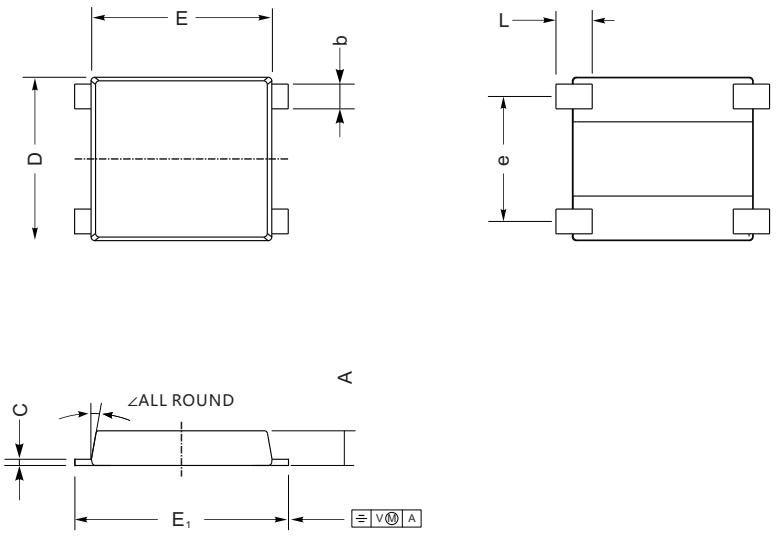


## PACKAGE OUTLINE DIMENSIONS




| UNIT | | | | | | |
|---|---|---|---|---|---|---|
| mm | max | 1.5 | 0.29 | 8.9 | | 10° |
| | min | 1.3 | 0.17 | 8.4 | | |
| | | | | | | |
| | | | | | | |