

## Ultrafast Rectifier

## DSEI8-06A

## FEATURES

- Ultrafast Recovery Time
- Very short recovery time
- Extremely low switching losses
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

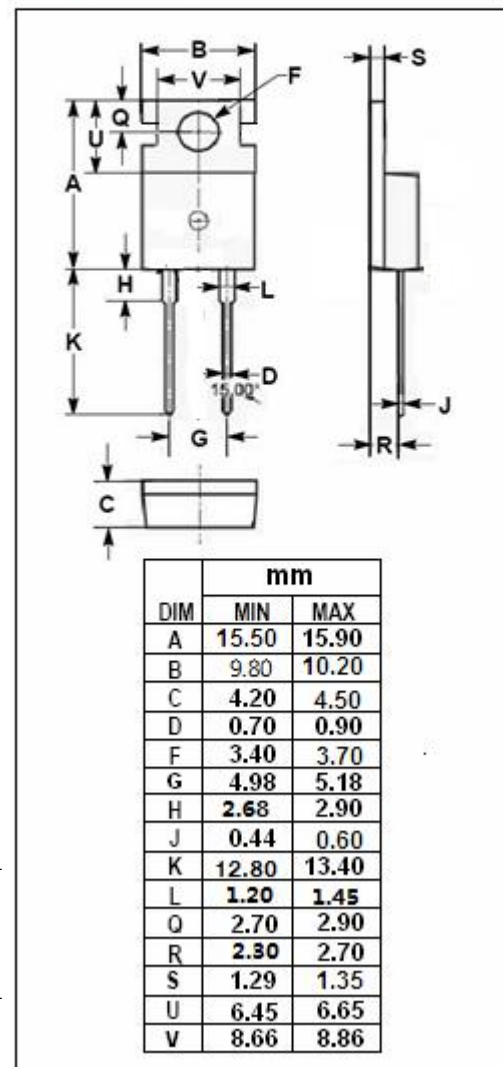
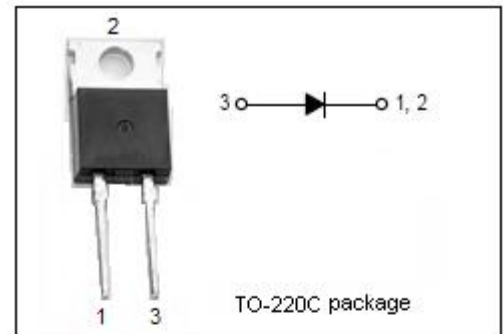
- Designed for use in switching power supplies and other power Switching applications.

ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL                          | PARAMETER                                                                                                     | VALUE   | UNIT               |
|---------------------------------|---------------------------------------------------------------------------------------------------------------|---------|--------------------|
| $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                        | 600     | V                  |
| $I_{F(AV)}$                     | Average Rectified Forward Current                                                                             | 8       | A                  |
| $I_{FSM}$                       | Nonrepetitive Peak Surge Current<br>(Surge applied at rated load conditions<br>half-wave, single phase, 60Hz) | 110     | A                  |
| $T_J$                           | Junction Temperature                                                                                          | -40~150 | $^{\circ}\text{C}$ |
| $T_{stg}$                       | Storage Temperature Range                                                                                     | -40~150 | $^{\circ}\text{C}$ |

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                            | MAX | UNIT                 |
|---------------|--------------------------------------|-----|----------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.5 | $^{\circ}\text{C/W}$ |



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**ELECTRICAL CHARACTERISTICS**( $T_a=25^{\circ}\text{C}$ ) (Pulse Test: Pulse Width=300  $\mu\text{s}$ , Duty Cycle $\leq 2\%$ )

| SYMBOL   | PARAMETER                             | CONDITIONS                                                                                                                                               | MAX              | UNIT          |
|----------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------|
| $V_F$    | Maximum Instantaneous Forward Voltage | $I_F = 8\text{A}; T_j = 25^{\circ}\text{C}$<br>$I_F = 8\text{A}; T_j = 150^{\circ}\text{C}$                                                              | 1.5<br>1.3       | V             |
| $I_R$    | Maximum Instantaneous Reverse Current | $V_R = V_{RWM}; T_j = 25^{\circ}\text{C}$<br>$V_R = 0.8 \cdot V_{RWM}; T_j = 25^{\circ}\text{C}$<br>$V_R = 0.8 \cdot V_{RWM}; T_j = 125^{\circ}\text{C}$ | 20<br>10<br>1500 | $\mu\text{A}$ |
| $t_{rr}$ | Maximum Reverse Recovery Time         | $I_F = 1\text{A}$                                                                                                                                        | 50               | ns            |

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