

## Ultra fast Rectifier

## ETH1506FP

### FEATURES

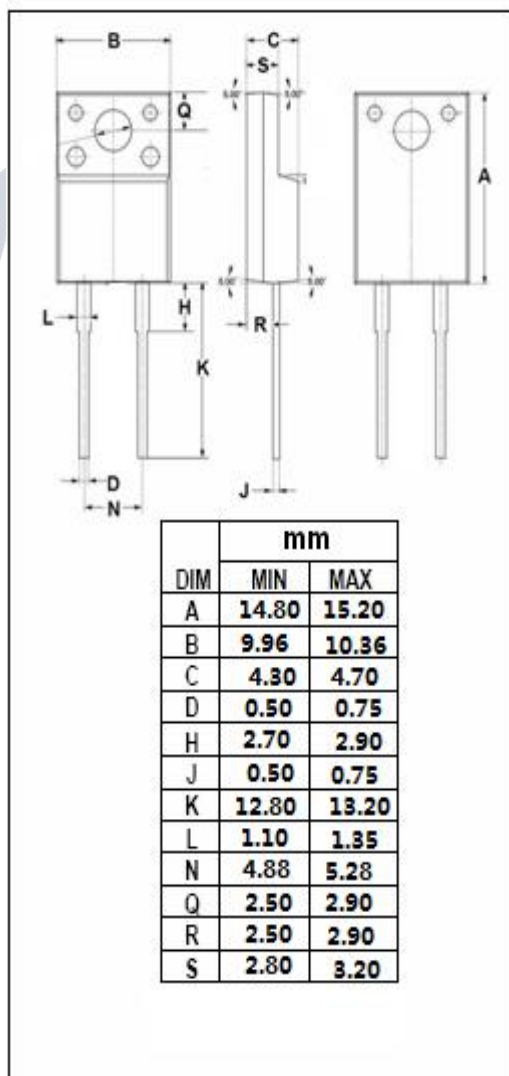
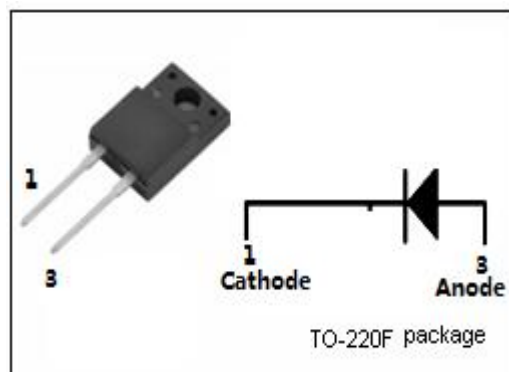
- With TO-220F packaging
- Low switching loss
- High surge current capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Switching power supply
- Power switching circuits
- General rectification

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

| SYMBOL             | PARAMETER                                                                                                                   | VALUE   | UNIT               |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------|---------|--------------------|
| VRRM<br>VRWM<br>VR | Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage $t_w=500\text{ns}; \text{duty}=1/40$ | 600     | V                  |
| IF(AV)             | Average Rectified Forward Current<br>@ $T_c=94^{\circ}\text{C}$                                                             | 15      | A                  |
| IFSM               | Nonrepetitive Peak Surge Current<br>8.3ms single half sine-wave superimposed on rated load conditions; One shot             | 160     | A                  |
| TJ                 | Junction Temperature                                                                                                        | -65~175 | $^{\circ}\text{C}$ |
| Tstg               | Storage Temperature Range                                                                                                   | -65~175 | $^{\circ}\text{C}$ |



**Ultra fast Rectifier****ETH1506FP****THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX | UNIT          |
|---------------|--------------------------------------|-----|---------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 4.3 | $^{\circ}C/W$ |

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

| SYMBOL   | PARAMETER                             | CONDITIONS                                                        | MAX       | UNIT    |
|----------|---------------------------------------|-------------------------------------------------------------------|-----------|---------|
| $V_F$    | Maximum Instantaneous Forward Voltage | $I_F=15A$                                                         | 2.45      | V       |
| $I_R$    | Maximum Instantaneous Reverse Current | $V_R=V_{RWM}; T_j=25^{\circ}C$<br>$V_R=V_{RWM}; T_j=150^{\circ}C$ | 15<br>200 | $\mu A$ |
| $t_{rr}$ | Maximum Reverse Recovery Time         | $I_F=0.5A; diF/dt=100A/\mu s, V_R=30V$                            | 36        | ns      |

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