

# Ultrafast Rectifier

## FESB16JT

### FEATURES

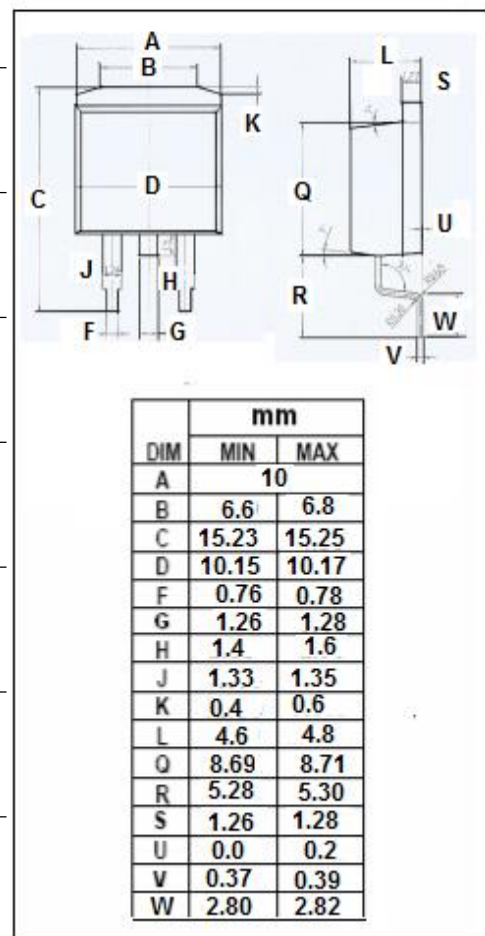
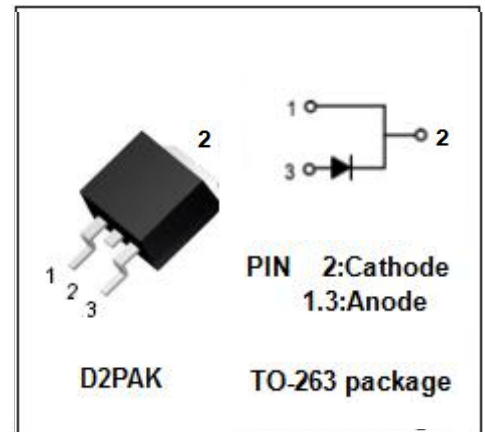
- Popular TO-263 package
- Low power loss
- Low forward voltage, high current capability
- High surge current capability
- Superfast recovery time, for high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Designed for use in switching power supplies, inverters and as free wheeling diodes.

### 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                                                                           | 16      | A                  |
| $I_{FRM}$                       | Peak Rectified forward current                                                                              | 30      | A                  |
| $I_{FSM}$                       | Non-repetitive Peak Surge Current<br>(Surge applied at rated load conditions half-wave, single phase, 60Hz) | 250     | A                  |
| $T_J$                           | Junction Temperature                                                                                        | -65~150 | $^{\circ}\text{C}$ |
| $T_{stg}$                       | Storage Temperature Range                                                                                   | -65~150 | $^{\circ}\text{C}$ |



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## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                            | MAX | UNIT |
|---------------|--------------------------------------|-----|------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.0 | °C/W |

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

| SYMBOL   | PARAMETER                             | CONDITIONS                                                                            | MAX        | UNIT    |
|----------|---------------------------------------|---------------------------------------------------------------------------------------|------------|---------|
| $V_F$    | Maximum Instantaneous Forward Voltage | $I_F=16\text{A}; T_j=25^{\circ}\text{C}$<br>$I_F=16\text{A}; T_j=150^{\circ}\text{C}$ | 1.5<br>1.2 | V       |
| $I_R$    | Maximum Instantaneous Reverse Current | $V_R=V_{RWM}; T_j=150^{\circ}\text{C}$<br>$V_R=V_{RWM}$                               | 500<br>10  | $\mu$ A |
| $t_{rr}$ | Maximum Reverse Recovery Time         | $I_F=0.5\text{A}$                                                                     | 50         | ns      |

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