

**Ultrafast Rectifier**
**DF20LC30**
**FEATURES**

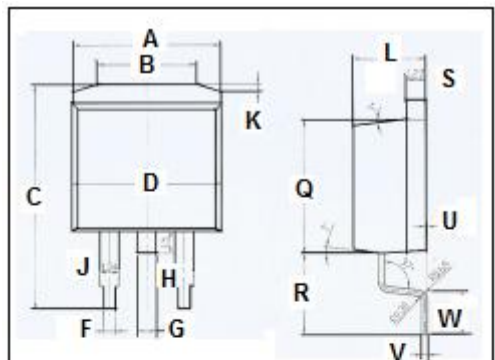
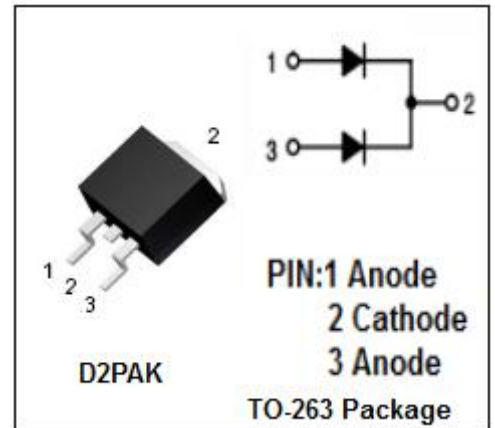
- Guarding for over voltage protection
- Dual rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Switching power supply
- DC/DC converter

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

| SYMBOL   | PARAMETER  | VALUE    | UNIT |
|--|--|----------|------|
| V <sub>R</sub> RM<br>V <sub>R</sub> WM<br>V <sub>R</sub> | Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                     | 300      | V    |
| I <sub>F</sub> (AV)                                      | Average Rectified Forward Current Per Leg<br>Total device  | 10<br>20 | A    |
| I <sub>FSM</sub>   | Nonrepetitive Peak Surge Current<br>(Surge applied at rated load conditions half-wave, single phase, 60Hz) | 180      | A    |
| P <sub>D</sub>   | Maximum power dissipation  | 125      | W    |
| T <sub>J</sub>   | Junction Temperature   | -55~150  | °C   |
| T <sub>stg</sub>   | Storage Temperature Range  | -55~150  | °C   |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 10    |       |
| B   | 6.6   | 6.8   |
| C   | 15.23 | 15.25 |
| D   | 10.15 | 10.17 |
| F   | 0.76  | 0.78  |
| G   | 1.26  | 1.28  |
| H   | 1.4   | 1.6   |
| J   | 1.33  | 1.35  |
| K   | 0.4   | 0.6   |
| L   | 4.6   | 4.8   |
| Q   | 8.69  | 8.71  |
| R   | 5.28  | 5.30  |
| S   | 1.26  | 1.28  |
| U   | 0.0   | 0.2   |
| V   | 0.37  | 0.39  |
| W   | 2.80  | 2.82  |

**Fast Recovery Rectifier****DF20LC30****THERMAL CHARACTERISTICS**

| SYMBOL             | PARAMETER                            | MAX | UNIT |
|--------------------|--------------------------------------|-----|------|
| R <sub>thj-c</sub> | Thermal Resistance, Junction to Case | 1.0 | °C/W |

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C) (Pulse Test: Pulse Width=300 μs, Duty Cycle≤2%)**

| SYMBOL          | PARAMETER                             | CONDITIONS                                   | MAX | UNIT |
|-----------------|---------------------------------------|--|-----|------|
| V <sub>F</sub>  | Maximum Instantaneous Forward Voltage | I <sub>F</sub> = 10A ; T <sub>J</sub> =25 °C | 1.3 | V    |
| I <sub>R</sub>  | Maximum Instantaneous Reverse Current | V <sub>R</sub> = 300V                        | 25  | μ A  |
| t <sub>rr</sub> | Maximum Reverse Recovery Time         | I <sub>F</sub> =0.5A; I <sub>R</sub> =25uA   | 30  | ns   |

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