

**isc N-Channel MOSFET Transistor**

**IRFB23N15D, IIRFB23N15D**

**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 90m\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

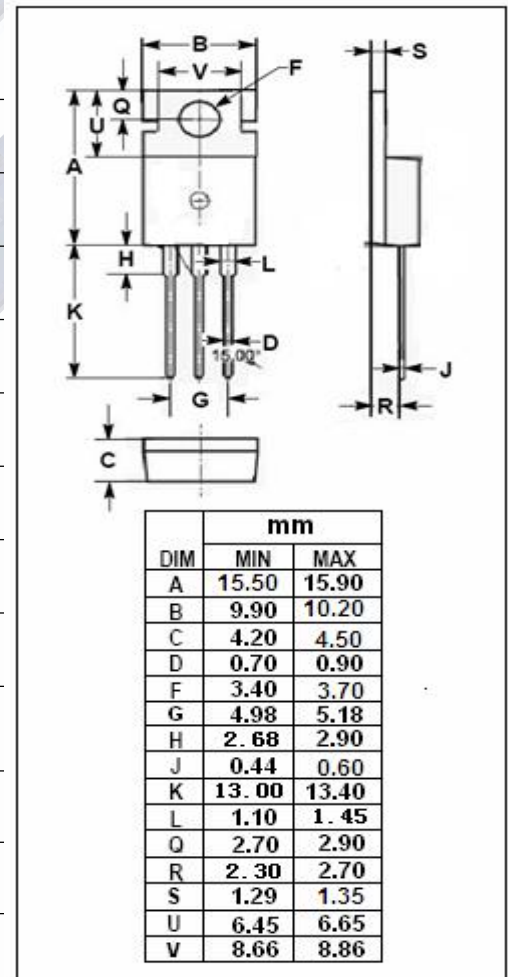
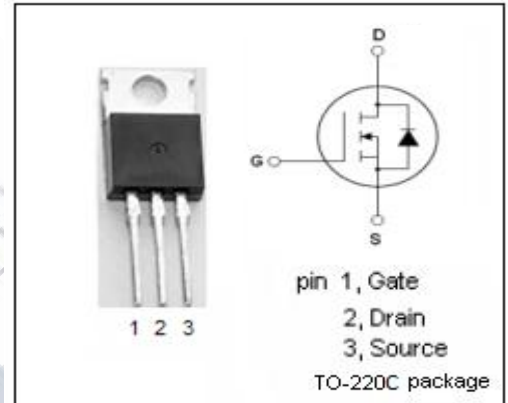
- High Frequency DC-DC converters

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

| SYMBOL           | PARAMETER                               | VALUE   | UNIT |
|------------------|---|---------|------|
| V <sub>DSS</sub> | Drain-Source Voltage                    | 150     | V    |
| V <sub>GS</sub>  | Gate-Source Voltage                     | ±30     | V    |
| I <sub>D</sub>   | Drain Current-Continuous                | 23      | A    |
| I <sub>DM</sub>  | Drain Current-Single Pulsed             | 90      | A    |
| P <sub>D</sub>   | Total Dissipation @T <sub>c</sub> =25°C | 160     | W    |
| T <sub>j</sub>   | Max. Operating Junction Temperature     | 175     | °C   |
| T <sub>stg</sub> | Storage Temperature                     | -55~175 | °C   |

**• THERMAL CHARACTERISTICS**

| SYMBOL                | PARAMETER                             | MAX  | UNIT |
|-----------------------|---------------------------------------|------|------|
| R <sub>th(ch-c)</sub> | Channel-to-case thermal resistance    | 0.94 | °C/W |
| R <sub>th(ch-a)</sub> | Channel-to-ambient thermal resistance | 62   | °C/W |



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**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

| SYMBOL              | PARAMETER                      | CONDITIONS   | MIN | TYP | MAX  | UNIT |
|---------------------|--------------------------------|--|-----|-----|------|------|
| BV <sub>DSS</sub>   | Drain-Source Breakdown Voltage | V <sub>GS</sub> =0V; I <sub>D</sub> =250 μ A               | 150 |     |      | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250 μ A | 2   |     | 4    | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> =10V; I <sub>D</sub> =18A                  |     |     | 90   | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±30V                                     |     |     | ±100 | nA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> =150V; V <sub>GS</sub> = 0V                |     |     | 25   | μ A  |
| V <sub>SD</sub>     | Diode forward voltage          | I <sub>F</sub> =14A; V <sub>GS</sub> = 0V                  |     |     | 1.3  | V    |