

**isc N-Channel MOSFET Transistor**
**IRF1310N, IIRF1310N**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 0.036\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

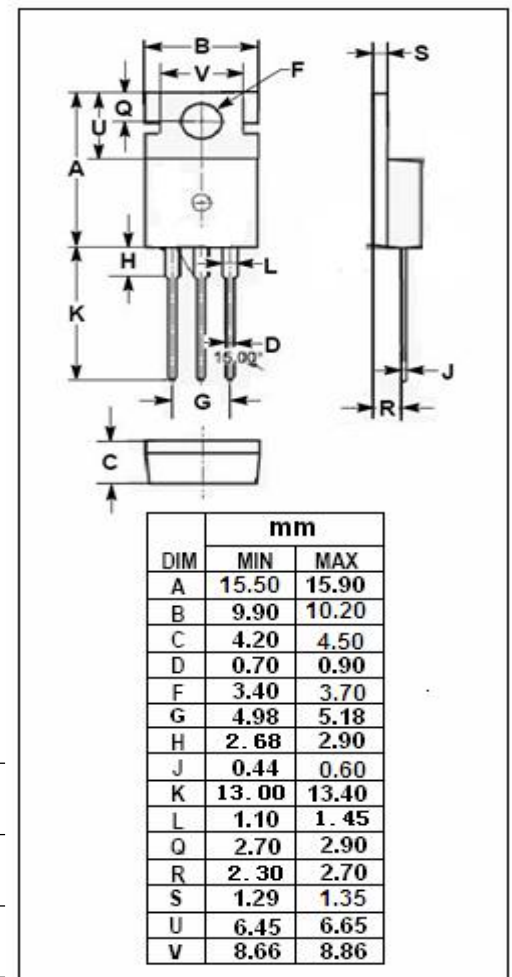
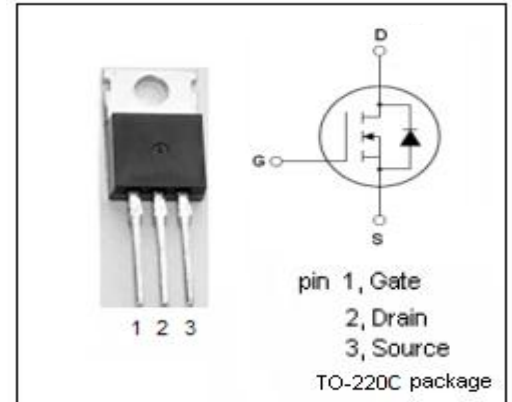
- reliable device for use in a wide variety of applications

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

| SYMBOL    | PARAMETER                                  | VALUE    | UNIT             |
|-----------|--|----------|------------------|
| $V_{DS}$  | Drain-Source Voltage                       | 100      | V                |
| $V_{GS}$  | Gate-Source Voltage                        | $\pm 20$ | V                |
| $I_D$     | Drain Current-Continuous                   | 42       | A                |
| $I_{DM}$  | Drain Current-Single Pulsed                | 140      | A                |
| $P_D$     | Total Dissipation @ $T_c=25^\circ\text{C}$ | 160      | W                |
| $T_j$     | Max. Operating Junction Temperature        | 175      | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                        | -55~175  | $^\circ\text{C}$ |

**• THERMAL CHARACTERISTICS**

| SYMBOL         | PARAMETER                             | MAX  | UNIT               |
|----------------|---------------------------------------|------|--------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance    | 0.95 | $^\circ\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62   | $^\circ\text{C/W}$ |



## isc N-Channel MOSFET Transistor

## IRF1310N, IIRF1310N

## 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               | 100 |     |       | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250 μ A | 2.0 |     | 4.0   | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> =10V; I <sub>D</sub> =22A                  |     |     | 0.036 | Ω    |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> =±20V                                      |     |     | ±0.1  | μ A  |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> =100V; V <sub>GS</sub> = 0V                |     |     | 25    | μ A  |
| V <sub>SD</sub>     | Diode forward voltage          | I <sub>S</sub> =22A, V <sub>GS</sub> = 0V                  |     |     | 1.3   | V    |

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