

## isc N-Channel MOSFET Transistor

## IRFP7530, IIRFP7530

## • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 2m\Omega$
- Enhancement mode:  
 $V_{th} = 2.1 \text{ to } 3.7V$  ( $V_{DS}=V_{GS}$ ,  $I_D=250 \mu A$ )
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • DESCRIPTION

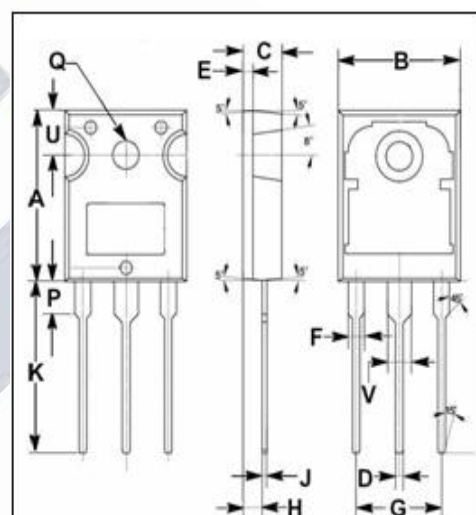
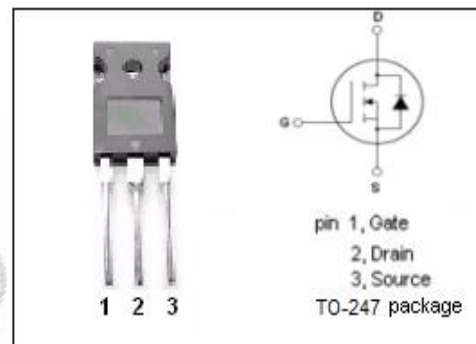
- Synchronous Rectification

• ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ C$ )

| SYMBOL    | PARAMETER                            | VALUE    | UNIT       |
|-----------|--------------------------------------|----------|------------|
| $V_{DS}$  | Drain-Source Voltage                 | 60       | V          |
| $V_{GS}$  | Gate-Source Voltage                  | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous             | 195      | A          |
| $I_{DM}$  | Drain Current-Single Pulsed          | 760      | A          |
| $P_D$     | Total Dissipation @ $T_c=25^\circ C$ | 341      | W          |
| $T_j$     | Max. Operating Junction Temperature  | 175      | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                  | -55~175  | $^\circ C$ |

## • THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                             | MAX  | UNIT         |
|---------------|---------------------------------------|------|--------------|
| $R_{th(j-c)}$ | Channel-to-case thermal resistance    | 0.44 | $^\circ C/W$ |
| $R_{th(j-a)}$ | Channel-to-ambient thermal resistance | 40   | $^\circ C/W$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 19.80 | 20.20 |
| B   | 15.40 | 15.80 |
| C   | 4.90  | 5.10  |
| D   | 0.90  | 1.10  |
| E   | 1.40  | 1.60  |
| F   | 1.90  | 2.10  |
| G   | 10.80 | 11.00 |
| H   | 2.40  | 2.60  |
| J   | 0.50  | 0.70  |
| K   | 19.50 | 20.50 |
| P   | 3.90  | 4.10  |
| Q   | 3.30  | 3.50  |
| U   | 5.20  | 5.40  |
| V   | 2.90  | 3.10  |

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS                    | MIN | TYP | MAX       | UNIT      |
|--------------|--------------------------------|-------------------------------|-----|-----|-----------|-----------|
| $BV_{DS}$    | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=250\mu A$     | 60  |     |           | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=V_{GS}; I_D=250\mu A$ | 2.1 |     | 3.7       | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V; I_D=100A$        |     |     | 2.0       | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 20V$              |     |     | $\pm 0.1$ | $\mu A$   |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=60V; V_{GS}=0V$       |     |     | 1.0       | $\mu A$   |
| $V_{SD}$     | Diode forward voltage          | $I_S=100A, V_{GS}=0V$         |     |     | 1.2       | V         |