

## isc N-Channel MOSFET Transistor

IPW60R190P6

IIPW60R190P6

## • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 190m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • DESCRIPTION

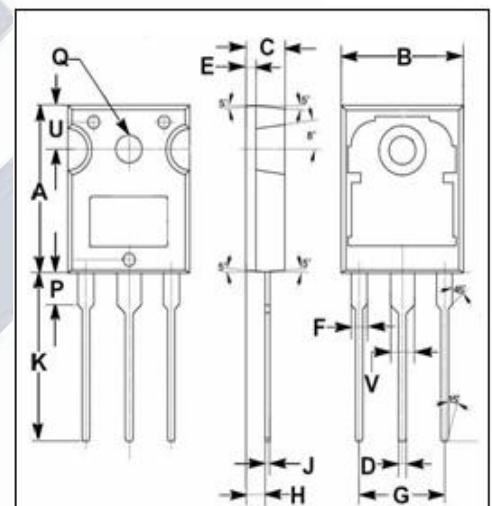
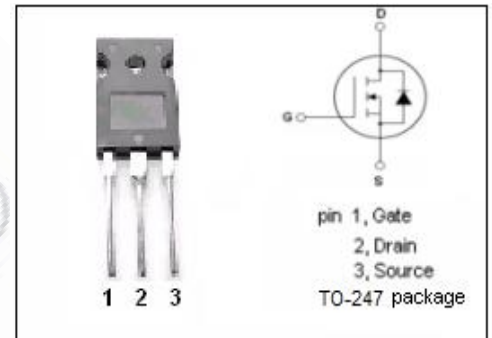
- Fast switching

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

| SYMBOL    | PARAMETER                            | VALUE    | UNIT       |
|-----------|--------------------------------------|----------|------------|
| $V_{DS}$  | Drain-Source Voltage                 | 600      | V          |
| $V_{GS}$  | Gate-Source Voltage                  | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous             | 20.2     | A          |
| $I_{DM}$  | Drain Current-Single Pulsed          | 57       | A          |
| $P_D$     | Total Dissipation @ $T_c=25^\circ C$ | 151      | W          |
| $T_j$     | Max. Operating Junction Temperature  | 150      | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                  | -55~150  | $^\circ C$ |

## • THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                             | MAX  | UNIT         |
|---------------|---------------------------------------|------|--------------|
| $R_{th(j-c)}$ | Channel-to-case thermal resistance    | 0.83 | $^\circ C/W$ |
| $R_{th(j-a)}$ | Channel-to-ambient thermal resistance | 62   | $^\circ C/W$ |



| 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      |
|--------------|--------------------------------|--------------------------------|-----|-----|-----|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V$ ; $I_D=0.25mA$     | 600 |     |     | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=V_{GS}$ ; $I_D=0.63mA$ | 3.5 |     | 4.5 | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V$ ; $I_D=7.6A$      |     |     | 190 | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=20V$                   |     |     | 0.1 | $\mu A$   |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=600V$ ; $V_{GS}=0V$    |     |     | 1   | $\mu A$   |
| $V_{SD}$     | Diode forward voltage          | $I_F=9.5A$ , $V_{GS}=0V$       |     |     |     | V         |