

# Isc N-Channel MOSFET Transistor

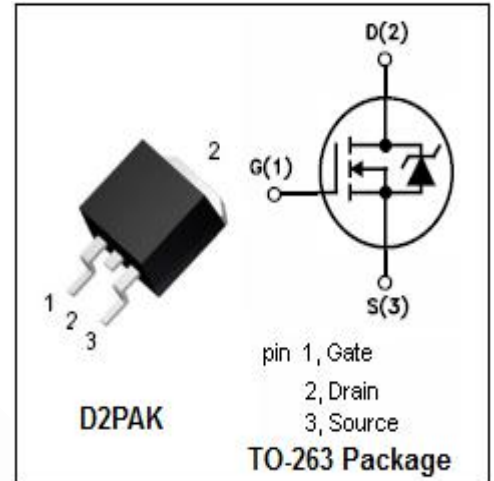
# IPB65R190CFD

**• FEATURES**

- With To-263(D2PAK) package
- Low input capacitance and gate charge
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

- Switching applications

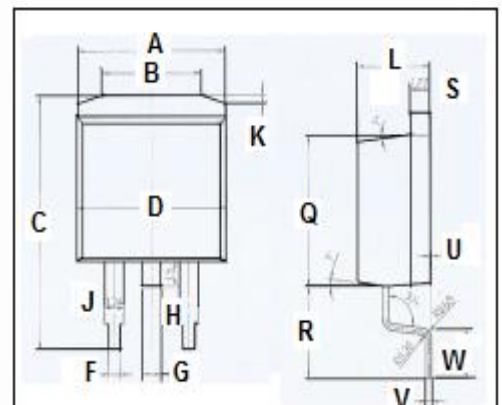


**• ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

| SYMBOL           | PARAMETER   | VALUE      | UNIT |
|------------------|---|------------|------|
| V <sub>DSS</sub> | Drain-Source Voltage  | 650        | V    |
| V <sub>GSS</sub> | Gate-Source Voltage   | ±30        | V    |
| I <sub>D</sub>   | Drain Current-Continuous<br>T <sub>c</sub> =25°C<br>T <sub>c</sub> =100°C | 17.5<br>11 | A    |
| I <sub>DM</sub>  | Drain Current-Single Pulsed   | 57.2       | A    |
| P <sub>D</sub>   | Total Dissipation @T <sub>c</sub> =25°C                                   | 151        | W    |
| T <sub>ch</sub>  | Max. Operating Junction Temperature                                       | 150        | °C   |
| T <sub>stg</sub> | Storage Temperature   | -55~150    | °C   |

**• THERMAL CHARACTERISTICS**

| SYMBOL                | PARAMETER                             | MAX  | UNIT |
|-----------------------|---------------------------------------|------|------|
| R <sub>th(ch-c)</sub> | Channel-to-case thermal resistance    | 0.83 | °C/W |
| R <sub>th(ch-a)</sub> | Channel-to-ambient thermal resistance | 62   | °C/W |



| 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  |

**Isc N-Channel MOSFET Transistor****IPB65R190CFD****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> =1mA  | 650 |     |          | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =0.73mA   | 3.5 |     | 4.5      | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =7.3A   |     | 171 | 190      | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±20V; V <sub>DS</sub> =0V   |     |     | ±0.1     | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> =650V; V <sub>GS</sub> = 0V; T <sub>j</sub> =25°C<br>V <sub>DS</sub> =650V; V <sub>GS</sub> = 0V; T <sub>j</sub> =150°C |     |     | 5<br>250 | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =11A, V <sub>GS</sub> = 0 V   |     | 0.9 |          | V    |