

# Isc N-Channel MOSFET Transistor

# IPB65R280C6

**• 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 | 13.8<br>8.7 | A    |
| I <sub>DM</sub>  | Drain Current-Single Pulsed   | 39          | A    |
| P <sub>D</sub>   | Total Dissipation @T <sub>c</sub> =25°C                                   | 104         | W    |
| T <sub>ch</sub>  | Max. Operating Junction Temperature                                       | 150         | °C   |
| T <sub>stg</sub> | Storage Temperature   | -55~150     | °C   |



| 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  |

**• THERMAL CHARACTERISTICS**

| SYMBOL                | PARAMETER                             | MAX | UNIT |
|-----------------------|---------------------------------------|-----|------|
| R <sub>th(ch-c)</sub> | Channel-to-case thermal resistance    | 1.2 | °C/W |
| R <sub>th(ch-a)</sub> | Channel-to-ambient thermal resistance | 62  | °C/W |

**Isc N-Channel MOSFET Transistor****IPB65R280C6****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS  | MIN | TYP | MAX       | UNIT      |
|--------------|--------------------------------|---|-----|-----|-----------|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=1mA$  | 650 |     |           | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=V_{GS}; I_D=0.44mA$   | 2.5 |     | 3.5       | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V; I_D=4.4A$  |     | 250 | 280       | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 20V; V_{DS}=0V$   |     |     | $\pm 0.1$ | $\mu A$   |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=650V; V_{GS}=0V; T_j=25^{\circ}\text{C}$<br>$V_{DS}=650V; V_{GS}=0V; T_j=150^{\circ}\text{C}$ |     |     | 1<br>100  | $\mu A$   |
| $V_{SDF}$    | Diode forward voltage          | $I_{SD}=6.6A, V_{GS}=0V$  |     | 0.9 |           | V         |

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