

**isc N-Channel MOSFET Transistor**

**IPD65R250C6, IIPD65R250C6**

**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 0.25\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

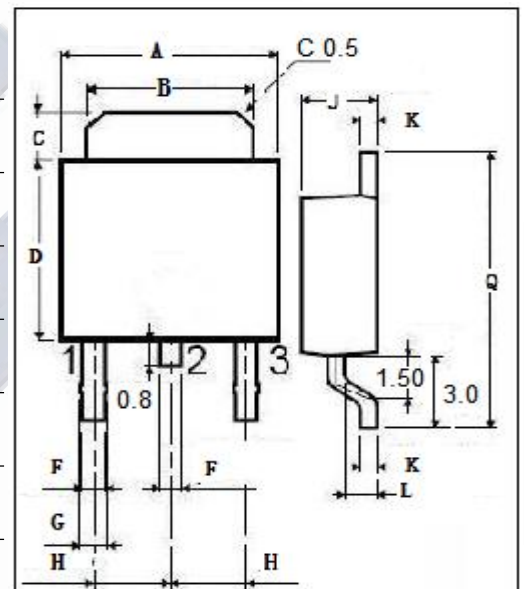
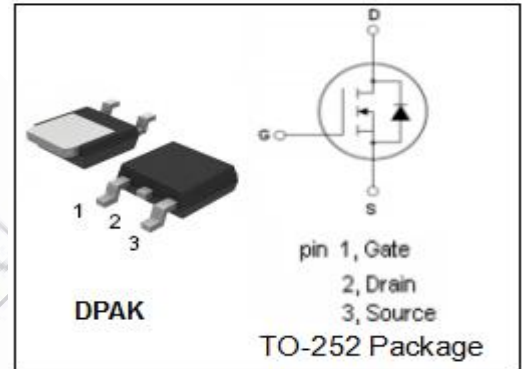
- Very high commutation ruggedness

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

| SYMBOL           | PARAMETER                               | VALUE   | UNIT |
|------------------|---|---------|------|
| V <sub>DSS</sub> | Drain-Source Voltage                    | 650     | V    |
| V <sub>GS</sub>  | Gate-Source Voltage                     | ±20     | V    |
| I <sub>D</sub>   | Drain Current-Continuous                | 16.1    | A    |
| I <sub>DM</sub>  | Drain Current-Single Pulsed             | 46      | A    |
| P <sub>D</sub>   | Total Dissipation @T <sub>c</sub> =25°C | 208     | W    |
| T <sub>j</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(j-c)</sub> | Channel-to-case thermal resistance    | 0.6 | °C/W |
| R <sub>th(j-a)</sub> | Channel-to-ambient thermal resistance | 62  | °C/W |



| DIM | mm   |      |
|-----|------|------|
|     | MIN  | MAX  |
| A   | 6.40 | 6.60 |
| B   | 5.20 | 5.40 |
| C   | 1.15 | 1.35 |
| D   | 5.70 | 6.10 |
| F   | 0.65 |      |
| G   | 0.75 |      |
| H   | 2.10 | 2.50 |
| J   | 2.10 | 2.40 |
| K   | 0.40 | 0.60 |
| L   | 0.90 | 1.10 |
| Q   | 9.90 | 10.1 |

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**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> =0.4mA | 2.5 |     | 3.5  | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> =10V; I <sub>D</sub> =4.4A               |     |     | 0.25 | Ω    |
| 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               |     |     | 1    | μA   |
| V <sub>SD</sub>     | Diode forward voltage          | I <sub>F</sub> =6.6A, V <sub>GS</sub> =0V                |     | 0.9 |      | V    |