

**isc N-Channel MOSFET Transistor**

**IRFPE40**

**• FEATURES**

- With TO-247 packaging
- With low gate drive requirements
- Easy to drive
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

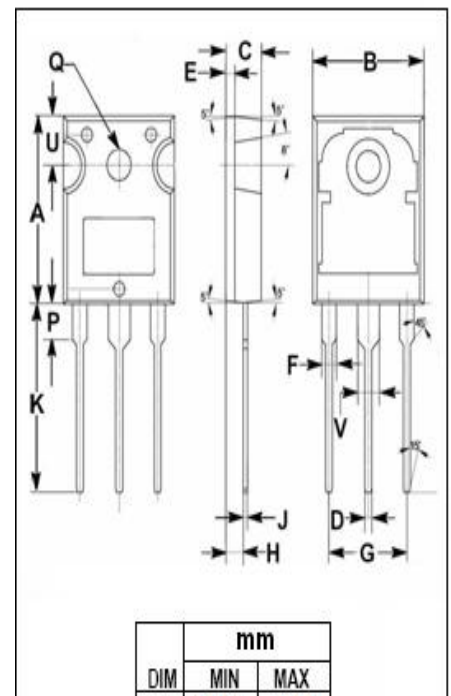
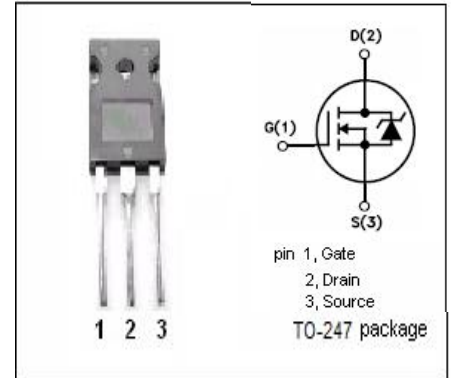
- Switching applications

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

| SYMBOL           | PARAMETER   | VALUE      | UNIT |
|------------------|---|------------|------|
| V <sub>DSS</sub> | Drain-Source Voltage  | 800        | V    |
| V <sub>GSS</sub> | Gate-Source Voltage   | ±20        | V    |
| I <sub>D</sub>   | Drain Current-Continuous @T <sub>c</sub> =25°C<br>T <sub>c</sub> =100°C | 5.4<br>3.4 | A    |
| I <sub>DM</sub>  | Drain Current-Single Pulsed   | 22         | A    |
| P <sub>D</sub>   | Total Dissipation   | 150        | W    |
| T <sub>j</sub>   | Operating Junction Temperature  | -55~150    | °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 |



| 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  |

**isc N-Channel MOSFET Transistor****IRFPE40****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> = 0.25mA   | 800 |     |            | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =0.25mA  | 2.0 |     | 4.0        | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =3.2A  |     |     | 2.0        | 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> = 800V; V <sub>GS</sub> = 0V; @T <sub>C</sub> =25°C<br>V <sub>DS</sub> = 640V; V <sub>GS</sub> = 0V; T <sub>C</sub> =125°C |     |     | 100<br>500 | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =5.4A, V <sub>GS</sub> = 0 V   |     |     | 1.8        | V    |

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