

isc N-Channel MOSFET Transistor

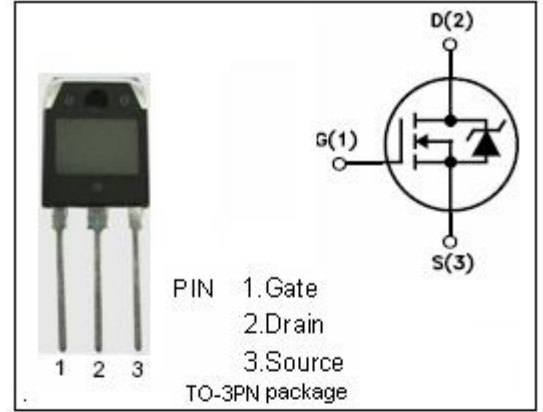
IRFP240R

FEATURES

- Drain Current  $-I_D = 20A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 200V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.18 \Omega (\text{Max})$
- Fast Switching

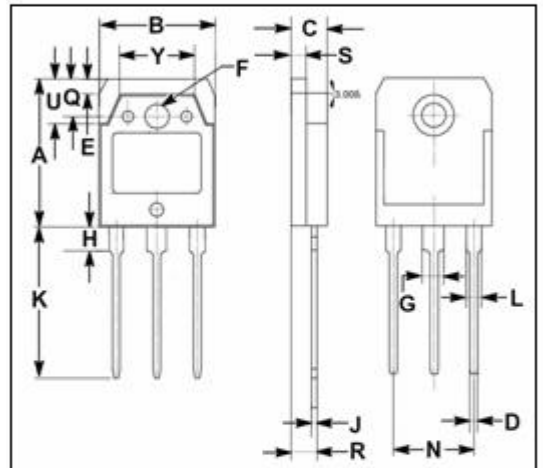
DESCRIPTION

- Designed for use in switch mode power supplies and general purpose applications.



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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|--|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 200      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | 20       | A          |
| $I_{DM}$  | Drain Current-Single Pulse             | 80       | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 150      | W          |
| $T_J$     | Max. Operating Junction Temperature    | -55~150  | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 19.90 | 20.10 |
| B   | 15.50 | 15.70 |
| C   | 4.70  | 4.90  |
| D   | 0.90  | 1.10  |
| E   | 1.90  | 2.10  |
| F   | 3.40  | 3.60  |
| G   | 2.90  | 3.10  |
| H   | 3.20  | 3.40  |
| J   | 0.595 | 0.605 |
| K   | 20.50 | 20.70 |
| L   | 1.90  | 2.10  |
| N   | 10.89 | 10.91 |
| Q   | 4.90  | 5.10  |
| R   | 3.35  | 3.45  |
| S   | 1.995 | 2.005 |
| U   | 5.90  | 6.10  |
| Y   | 9.90  | 10.10 |

THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                               | MAX  | UNIT         |
|--------------|---|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case    | 0.83 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 30   | $^\circ C/W$ |

**isc N-Channel MOSFET Transistor****IRFP240R****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                       | CONDITIONS                          | MIN | MAX       | UNIT          |
|---------------|---------------------------------|-------------------------------------|-----|-----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage  | $V_{GS}=0; I_D=0.25\text{mA}$       | 200 |           | V             |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}; I_D=0.25\text{mA}$  | 2   | 4         | V             |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}; I_D=10\text{A}$ |     | 0.18      | $\Omega$      |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}; V_{DS}=0$   |     | $\pm 100$ | nA            |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=200\text{V}; V_{GS}=0$      |     | 250       | $\mu\text{A}$ |
| $V_{SD}$      | Forward On-Voltage              | $I_S=18\text{A}; V_{GS}=0$          |     | 2         | V             |