

isc N-Channel MOSFET Transistor

IRFP140N, IIRFP140N

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 52m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

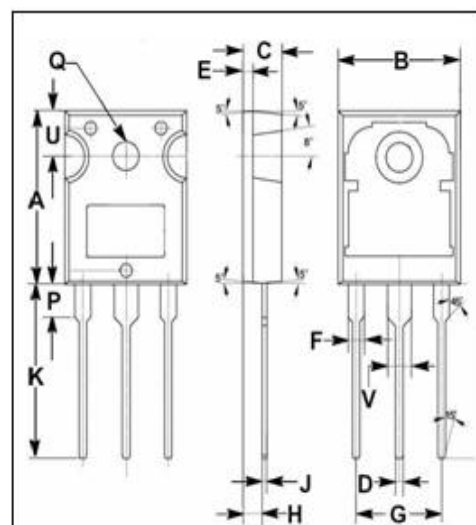
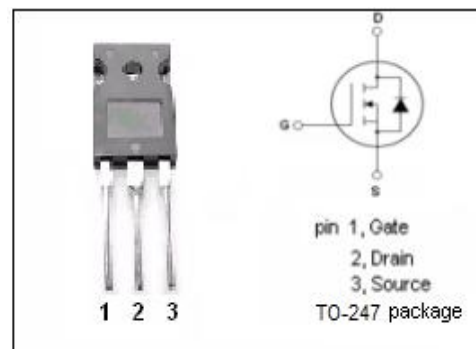
- Fast switching
- Fully Avalanche Rated

• ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------------|
| V_{DS} | Drain-Source Voltage | 100 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-Continuous | 33 | A |
| I_{DM} | Drain Current-Single Pulsed | 110 | A |
| P_D | Total Dissipation @ $T_c=25^\circ\text{C}$ | 140 | W |
| T_j | Max. Operating Junction Temperature | 175 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~175 | $^\circ\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|---------------------------------------|-----|--------------------|
| $R_{th(j-c)}$ | Channel-to-case thermal resistance | 1.1 | $^\circ\text{C/W}$ |
| $R_{th(j-a)}$ | Channel-to-ambient thermal resistance | 40 | $^\circ\text{C/W}$ |



| 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**IRFP140N, IIRFP140N****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------|--------------------------------|---|-----|-----|------|------|
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V; I _D =250 μA | 100 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =V _{GS} ; I _D =250 μA | 2.0 | | 4.0 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} =10V; I _D =16A | | | 52 | mΩ |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±20V | | | ±0.1 | μA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} =100V; V _{GS} = 0V | | | 25 | μA |
| V _{SD} | Diode forward voltage | I _S =16A, V _{GS} = 0V | | | 1.3 | V |

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