

isc N-Channel MOSFET Transistor IPD50R3K0CE,IIPD50R3K0CE

• FEATURES

- Static drain-source on-resistance: $R_{DS(on)} \leq 3\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

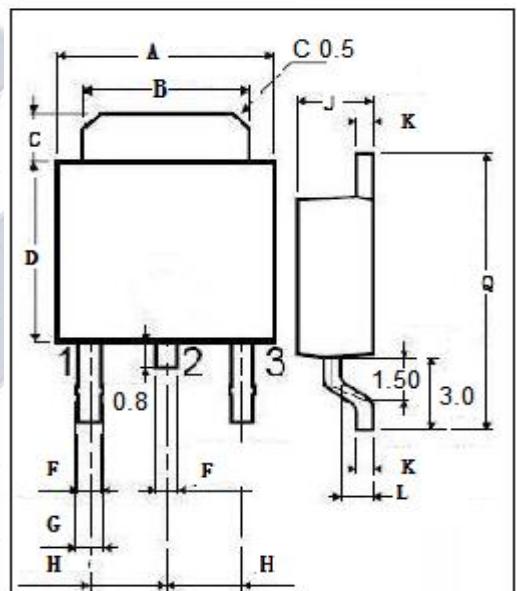
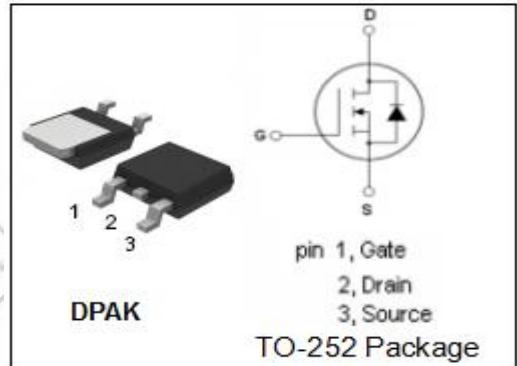
- Fast switching

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--------------------------------------|----------|------|
| V_{DSS} | Drain-Source Voltage | 500 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-Continuous | 2.6 | A |
| I_{DM} | Drain Current-Single Pulsed | 4.1 | A |
| P_D | Total Dissipation @ $T_c=25^\circ C$ | 26 | W |
| T_j | Max. Operating Junction Temperature | 150 | °C |
| T_{stg} | Storage Temperature | -55~150 | °C |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|---------------------------------------|------|------|
| $R_{th(j-c)}$ | Channel-to-case thermal resistance | 4.85 | °C/W |
| $R_{th(j-a)}$ | 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 |
| O | 9.90 | 10.1 |

isc N-Channel MOSFET Transistor IPD50R3K0CE,IIPD50R3K0CE**ELECTRICAL CHARACTERISTICS** $T_c=25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------------|--------------------------------|--|-----|------|-----|---------------|
| BV_{DSS} | Drain-Source Breakdown Voltage | $\text{V}_{\text{GS}}=0\text{V}; \text{I}_D=1\text{mA}$ | 500 | | | V |
| $\text{V}_{\text{GS(th)}}$ | Gate Threshold Voltage | $\text{V}_{\text{DS}}=\text{V}_{\text{GS}}; \text{I}_D=30 \mu\text{A}$ | 2.5 | | 3.5 | V |
| $\text{R}_{\text{DS(on)}}$ | Drain-Source On-Resistance | $\text{V}_{\text{GS}}=13\text{V}; \text{I}_D=0.4\text{A}$ | | | 3 | Ω |
| I_{GSS} | Gate-Source Leakage Current | $\text{V}_{\text{GS}}=20\text{V}$ | | | 0.1 | μA |
| I_{DSS} | Drain-Source Leakage Current | $\text{V}_{\text{DS}}=500\text{V}; \text{V}_{\text{GS}}=0\text{V}$ | | | 1 | μA |
| V_{SD} | Diode forward voltage | $\text{I}_F=0.5\text{A}, \text{V}_{\text{GS}}=0\text{V}$ | | 0.83 | | V |