

## 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

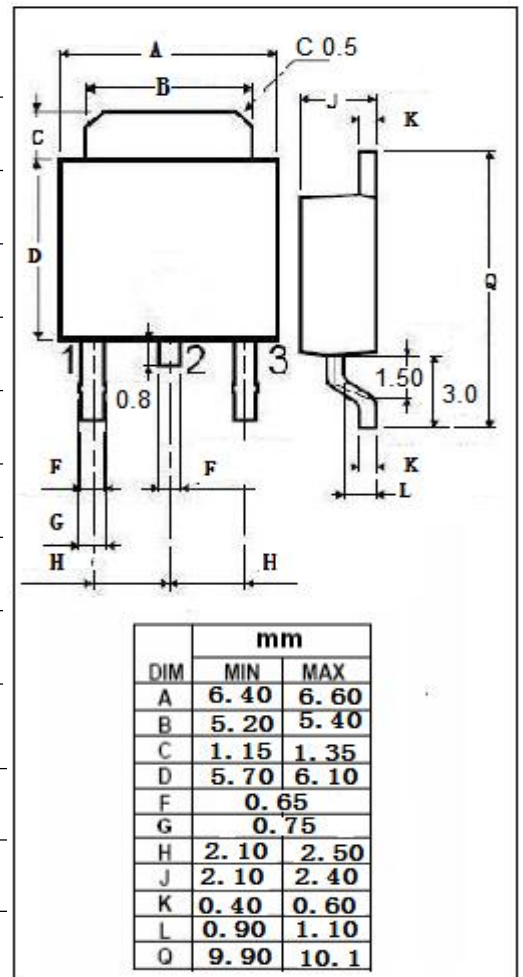
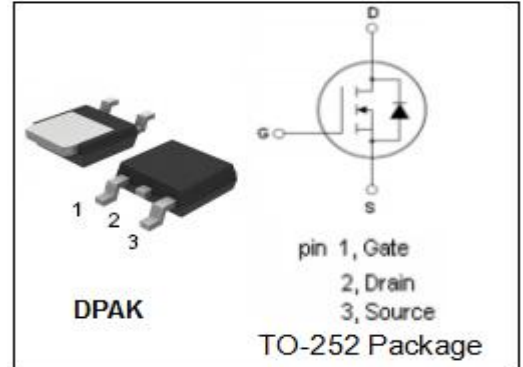
- Fast switching

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

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

### • THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                             | MAX  | UNIT               |
|---------------|---------------------------------------|------|--------------------|
| $R_{th(j-c)}$ | Channel-to-case thermal resistance    | 4.85 | $^\circ\text{C/W}$ |
| $R_{th(j-a)}$ | Channel-to-ambient thermal resistance | 62   | $^\circ\text{C/W}$ |



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### ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$  unless otherwise specified

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

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