

# Isc N-Channel MOSFET Transistor

# STD10NM65N

### • FEATURES

- With TO-252(DPAK) package
- Low input capacitance and gate charge
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

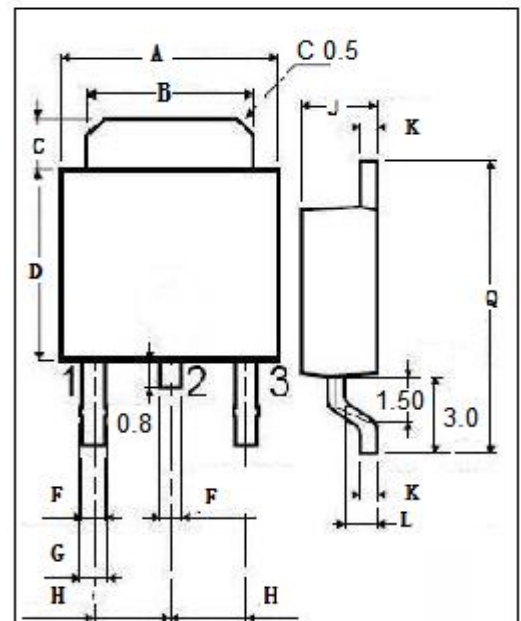
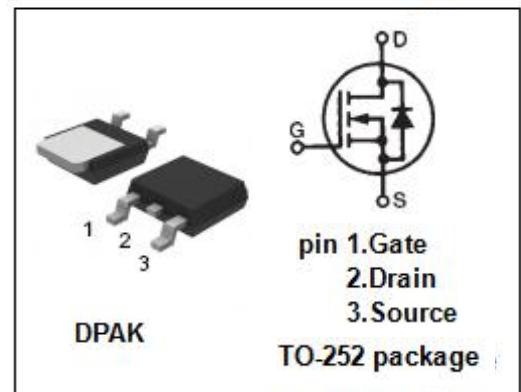
- Switching applications

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

| SYMBOL    | PARAMETER   | VALUE    | UNIT               |
|-----------|---|----------|--------------------|
| $V_{DSS}$ | Drain-Source Voltage  | 600      | V                  |
| $V_{GSS}$ | Gate-Source Voltage   | $\pm 25$ | V                  |
| $I_D$     | Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$<br>$T_c=125^{\circ}\text{C}$ | 8<br>5   | A                  |
| $I_{DM}$  | Drain Current-Single Pulsed   | 32       | A                  |
| $P_D$     | Total Dissipation @ $T_c=25^{\circ}\text{C}$                                    | 70       | W                  |
| $T_{ch}$  | Max. Operating Junction Temperature   | 150      | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature   | -55~150  | $^{\circ}\text{C}$ |

### • THERMAL CHARACTERISTICS

| SYMBOL         | PARAMETER                          | MAX  | UNIT                 |
|----------------|------------------------------------|------|----------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 1.79 | $^{\circ}\text{C/W}$ |



| 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 |
| Q   | 9.90 | 10.1 |

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## 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> = 1mA   | 600 |     |          | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> = ±25V; I <sub>D</sub> =0.25mA  | 3   |     | 5        | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =4A   |     |     | 600      | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±25V; V <sub>DS</sub> = 0V  |     |     | ±0.1     | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C |     |     | 1<br>100 | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =8A, V <sub>GS</sub> = 0 V  |     |     | 1.5      | V    |

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