

## isc N-Channel MOSFET Transistor

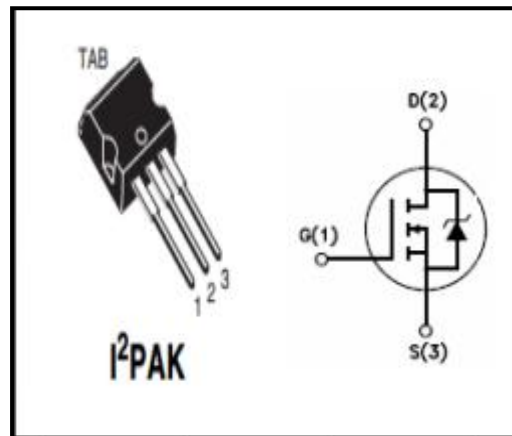
## SPI20N60C3

## • FEATURES

- With TO-262(I<sup>2</sup>PAK) package
- Low input capacitance and gate charge
- High peak current capability
- Improved transconductance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

| SYMBOL           | PARAMETER                                                              | VALUE        | UNIT |
|------------------|------------------------------------------------------------------------|--------------|------|
| V <sub>DSS</sub> | Drain-Source Voltage                                                   | 600          | V    |
| V <sub>GSS</sub> | Gate-Source Voltage                                                    | ±30          | V    |
| I <sub>D</sub>   | Drain Current-Continuous@T <sub>c</sub> =25°C<br>T <sub>c</sub> =100°C | 20.7<br>13.1 | A    |
| I <sub>DM</sub>  | Drain Current-Single Pulsed                                            | 62.1         | A    |
| P <sub>D</sub>   | Total Dissipation                                                      | 208          | W    |
| T <sub>j</sub>   | Operating Junction Temperature                                         | -55~150      | °C   |
| T <sub>stg</sub> | Storage Temperature                                                    | -55~150      | °C   |

## • THERMAL CHARACTERISTICS

| SYMBOL                | PARAMETER                             | MAX | UNIT |
|-----------------------|---------------------------------------|-----|------|
| R <sub>th(ch-c)</sub> | Channel-to-case thermal resistance    | 0.6 | °C/W |
| R <sub>th(ch-a)</sub> | Channel-to-ambient thermal resistance | 62  | °C/W |

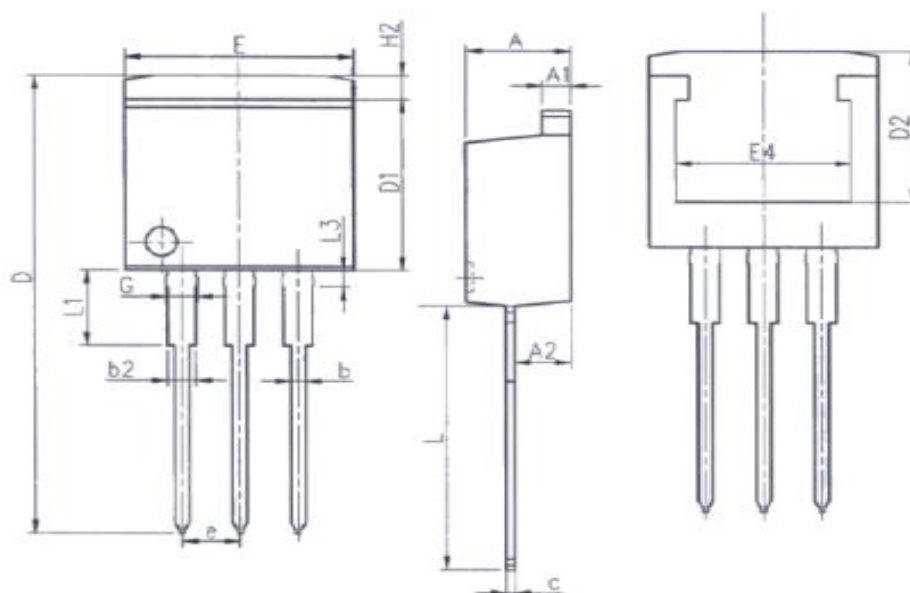
**Isc N-Channel MOSFET Transistor****SPI20N60C3****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS                                                                    | MIN | TYP | MAX       | UNIT      |
|--------------|--------------------------------|-------------------------------------------------------------------------------|-----|-----|-----------|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=0.25mA$                                                       | 600 |     |           | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=\pm 30V; I_D=1mA$                                                     |     | 3   | 3.9       | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V; I_D=13.1A$                                                       |     | 160 | 190       | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 30V; V_{DS}=0V$                                                   |     |     | $\pm 0.1$ | $\mu A$   |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=600V; V_{GS}=0V; T_J=25^{\circ}\text{C}$<br>$T_J=125^{\circ}\text{C}$ |     |     | 1<br>100  | $\mu A$   |
| $V_{SDF}$    | Diode forward voltage          | $I_{SD}=20.7A, V_{GS}=0V$                                                     |     |     | 1.2       | V         |

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## SPI20N60C3

### DIMENSIONAL DRAWING



| Unit: mm |       |       |
|----------|-------|-------|
| Symbol   | Min.  | Max.  |
| A        | 4.37  | 4.77  |
| A1       | 1.22  | 1.42  |
| A2       | 2.47  | 2.87  |
| b        | 0.70  | 0.97  |
| b2       | 1.17  | 1.42  |
| c        | 0.28  | 0.53  |
| D        | 23.20 | 24.02 |
| D1       | 8.38  | 8.90  |
| D2       | 6.00  | -     |

| Unit: mm |         |       |
|----------|---------|-------|
| Symbol   | Min.    | Max.  |
| E        | 9.90    | 10.39 |
| E4       | 7.30    | -     |
| e        | 2.54BSC |       |
| G        | 1.25    | 1.50  |
| H2       | -       | 1.31  |
| L        | 13.34   | 14.10 |
| L1       | 3.30    | 4.06  |
| L3       | 0.95    | 1.15  |

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