

## isc N-Channel MOSFET Transistor

## STP8NK80ZFP

## DESCRIPTION

- Drain Current  $I_D=6.2A@ T_C=25^{\circ}C$
- Drain Source Voltage-  
:  $V_{DSS}=800V(\text{Min})$
- 100% avalanche tested
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

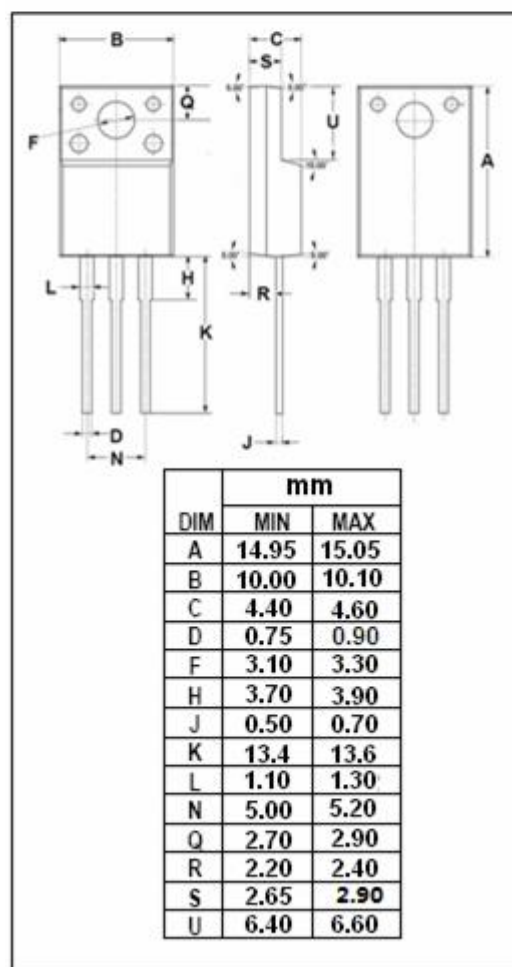
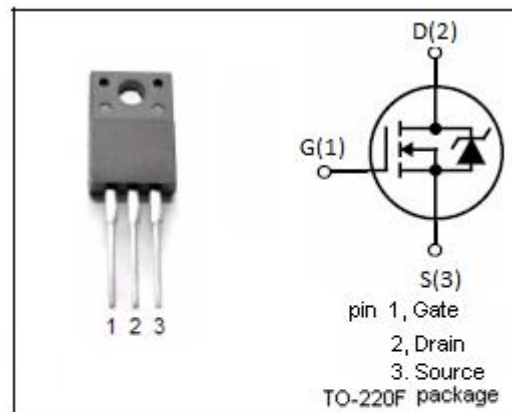
- Switching applications

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

| SYMBOL    | PARAMETER                                   | VALUE    | UNIT        |
|-----------|---------------------------------------------|----------|-------------|
| $V_{DSS}$ | Drain-Source Voltage ( $V_{GS}=0$ )         | 600      | V           |
| $V_{GS}$  | Gate-Source Voltage                         | $\pm 30$ | V           |
| $I_D$     | Drain Current-continuous@ $TC=25^{\circ}C$  | 6.2      | A           |
|           | Drain Current-continuous@ $TC=100^{\circ}C$ | 3.9      |             |
| $I_{CM}$  | Collector Current-Peak                      | 24.8     | A           |
| $P_{tot}$ | Total Dissipation@ $TC=25^{\circ}C$         | 30       | W           |
| $T_j$     | Max. Operating Junction Temperature         | -55~150  | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                   | -55~150  | $^{\circ}C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                              | MAX  | UNIT          |
|--------------|----------------------------------------|------|---------------|
| $R_{th j-c}$ | Thermal Resistance,Junction to Case    | 4.2  | $^{\circ}C/W$ |
| $R_{th j-a}$ | Thermal Resistance,Junction to Ambient | 62.5 | $^{\circ}C/W$ |



**isc N-Channel Mosfet Transistor****STP8NK80ZFP****• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)**

| SYMBOL               | PARAMETER                        | CONDITIONS                                                 | MIN | MAX | UNIT |
|----------------------|----------------------------------|------------------------------------------------------------|-----|-----|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage   | V <sub>GS</sub> = 0; I <sub>D</sub> = 1mA                  | 800 |     | V    |
| V <sub>GS(TH)</sub>  | Gate Threshold Voltage           | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 0.1mA | 3   | 4.5 | V    |
| R <sub>DS(ON)</sub>  | Drain-Source On-stage Resistance | V <sub>GS</sub> = 10V; I <sub>D</sub> = 13.1A              |     | 1.5 | Ω    |
| I <sub>GSS</sub>     | Gate Source Leakage Current      | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0                |     | ±1  | uA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current  | V <sub>DS</sub> = 800V; V <sub>GS</sub> = 0                |     | 1   | uA   |
| V <sub>SD</sub>      | Diode Forward Voltage            | I <sub>F</sub> = 6.2A; V <sub>GS</sub> = 0                 |     | 1.5 | V    |

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