

# Isc N-Channel MOSFET Transistor

## STP13NM60N

### • FEATURES

- Typical  $R_{DS(on)}=0.28\ \Omega$
- Low gate input resistance
- 100% avalanche tested
- Low input capacitance and gate charge
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

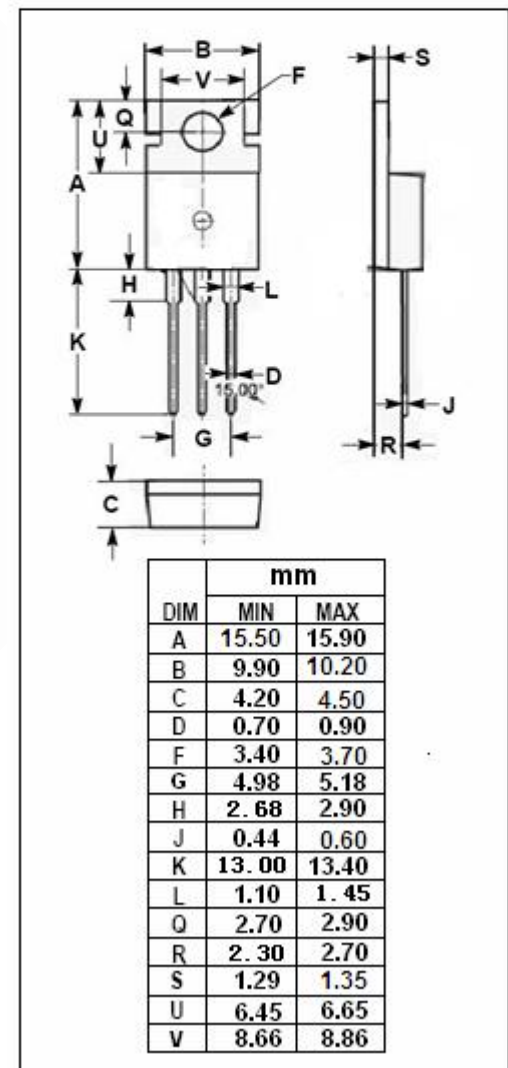
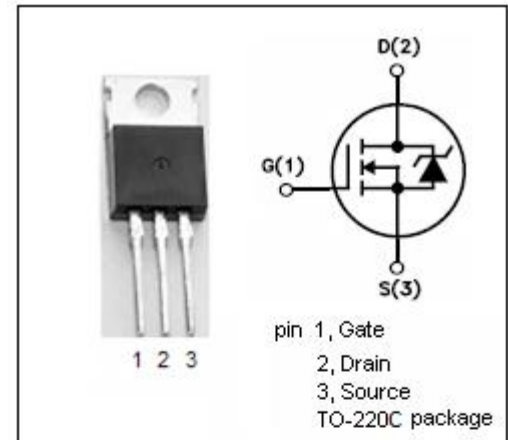
- Switching applications

### • 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>$T_c=100^\circ\text{C}$ | 11<br>6.93 | A                |
| $I_{DM}$  | Drain Current-Single Pulsed   | 44         | A                |
| $P_D$     | Total Dissipation   | 25         | W                |
| $T_j$     | Operating Junction Temperature  | -55~150    | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature   | -55~150    | $^\circ\text{C}$ |

### • THERMAL CHARACTERISTICS

| SYMBOL         | PARAMETER                             | MAX  | UNIT               |
|----------------|---------------------------------------|------|--------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance    | 1.39 | $^\circ\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62.5 | $^\circ\text{C/W}$ |



**Isc N-Channel MOSFET Transistor****STP13NM60N****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS  | MIN | TYP | MAX       | UNIT      |
|--------------|--------------------------------|---|-----|-----|-----------|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=1mA$  | 600 |     |           | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=\pm 25V; I_D=0.25mA$  | 2   |     | 4         | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V; I_D=5.5A$  |     | 280 | 360       | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 25V; V_{DS}=0V$   |     |     | $\pm 0.1$ | $\mu A$   |
| $I_{DSS}$    | 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          | $I_{SD}=11A, V_{GS}=0V$   |     |     | 1.5       | V         |

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