# Isc N-Channel MOSFET Transistor   STW48NM60N

• **FEATURES**

• Low input capacitance and gate charge

• Low gate input resistance

• 100% avalanche tested

• Minimum Lot-to-Lot variations for robust device
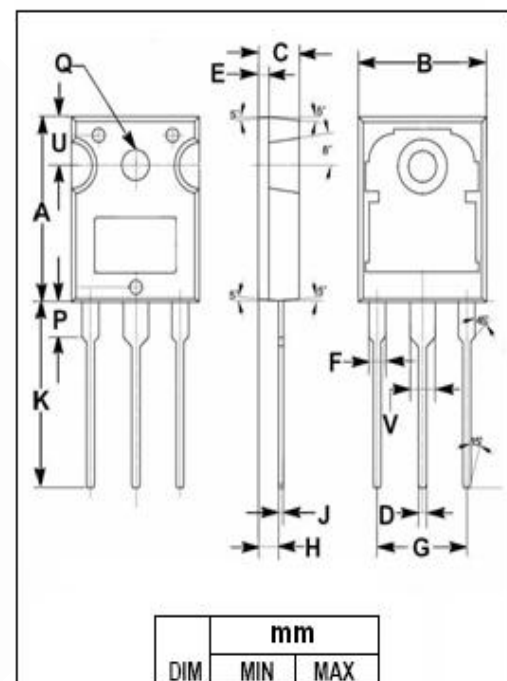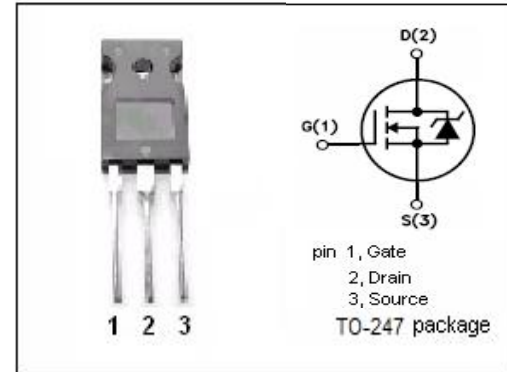  performance and reliable operation

• **APPLICATIONS**

• Switching applications



pin 1, Gate
2, Drain
3, Source

TO-247 package

• **ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)**

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 600 | V |
| $V_{GSS}$ | Gate-Source Voltage | ±25 | V |
| $I_D$ | Drain Current-Continuous@$T_C$=25℃<br>$T_C$=100℃ | 44<br>28 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 176 | A |
| $P_D$ | Total Dissipation | 330 | W |
| $T_{ch}$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

• **THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| Rth(ch-c) | Channel-to-case thermal resistance | 0.38 | ℃/W |
| Rth(ch-a) | Channel-to-ambient thermal resistance | 50 | ℃/W |



| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 19.80 | 20.20 |
| B | 15.40 | 15.80 |
| C | 4.90 | 5.10 |
| D | 0.90 | 1.10 |
| E | 1.40 | 1.60 |
| F | 1.90 | 2.10 |
| G | 10.80 | 11.00 |
| H | 2.40 | 2.60 |
| J | 0.50 | 0.70 |
| K | 19.50 | 20.50 |
| P | 3.90 | 4.10 |
| Q | 3.30 | 3.50 |
| U | 5.20 | 5.40 |
| V | 2.90 | 3.10 |

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### ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ 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 | $V_{DS}$= ±25V; $I_D$=0.25mA | 2 | | 4 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$= 10V; $I_D$=20A | | 55 | 70 | m Ω |
| $I_{GSS}$ | Gate-Source Leakage Current | $V_{GS}$= ±25V;$V_{DS}$= 0V | | | ±0.1 | μ A |
| $I_{DSS}$ | Drain-Source Leakage  Current | $V_{DS}$= 600V; $V_{GS}$= 0V；$T_J$=25℃ $T_J$=125℃ | | | 1 100 | μ A |
| $V_{SDF}$ | Diode forward voltage | $I_{SD}$=44A, $V_{GS}$ = 0 V | | | 1.6 | V |