

# isc N-Channel MOSFET Transistor

## 8N90A

### • DESCRIPTION

- Avalanche rugged technology
- Rugged gate oxide technology
- Lower input capacitance
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

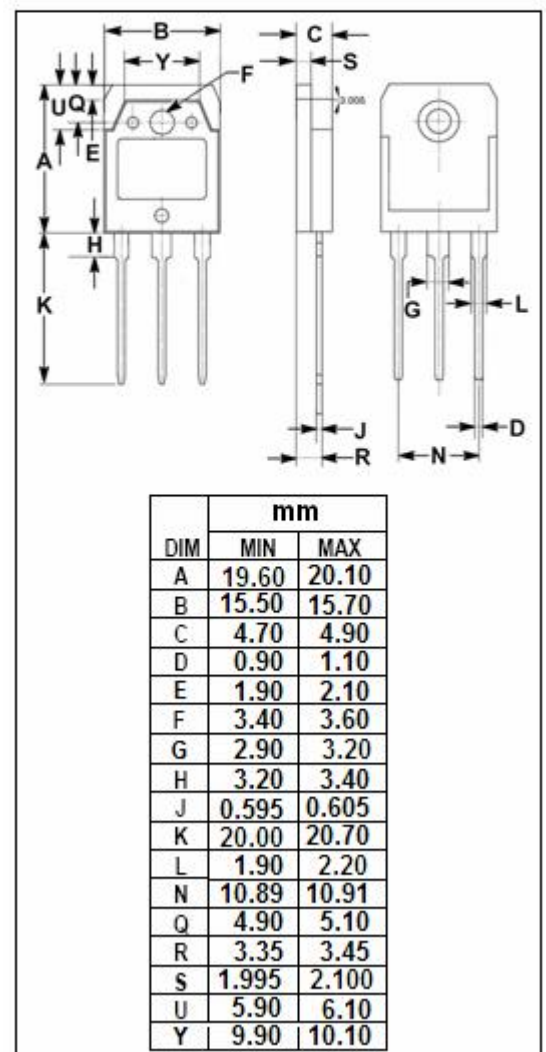
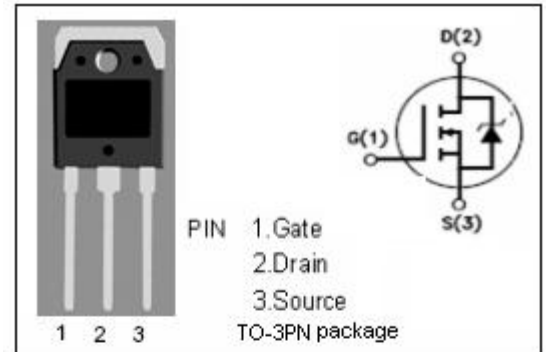
- General purpose power amplifier

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

| SYMBOL        | PARAMETER  | VALUE    | UNIT             |
|---------------|--|----------|------------------|
| $V_{DSS}$     | Drain-Source Voltage ( $V_{GS}=0$ )              | 900      | V                |
| $V_{GS}$      | Gate-Source Voltage                              | $\pm 30$ | V                |
| $I_D$         | Drain Current-continuous@ $T_C=25^\circ\text{C}$ | 8        | A                |
| $I_{D(puls)}$ | Pulse Drain Current                              | 32       | A                |
| $P_{tot}$     | Total Dissipation@ $T_C=25^\circ\text{C}$        | 240      | W                |
| $T_j$         | Max. Operating Junction Temperature              | 150      | $^\circ\text{C}$ |
| $T_{stg}$     | Storage Temperature Range                        | -55~150  | $^\circ\text{C}$ |

### • THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                            | MAX  | UNIT                      |
|---------------|--------------------------------------|------|---------------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.52 | $^\circ\text{C}/\text{W}$ |



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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

| SYMBOL               | PARAMETER                       | CONDITIONS  | MIN | TYPE | MAX  | UNIT |
|----------------------|---------------------------------|---|-----|------|------|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> =0.25mA               | 900 |      |      | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =250μA | 2.0 |      | 3.5  | V    |
| V <sub>SD</sub>      | Diode Forward On-Voltage        | I <sub>S</sub> =8A; V <sub>GS</sub> = 0                   |     |      | 1.4  | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> =4A                 |     |      | 1.6  | Ω    |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0               |     |      | ±100 | nA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 900V; V <sub>GS</sub> = 0               |     |      | 25   | μA   |

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