

isc N-Channel MOSFET Transistor

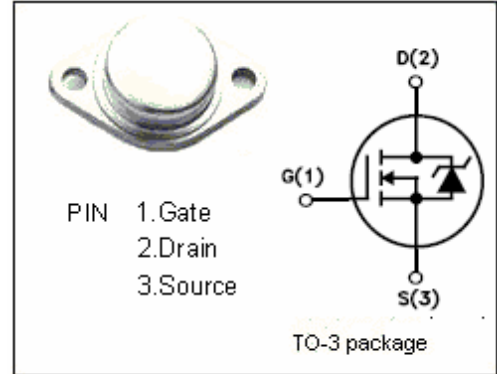
70N10

• DESCRIPTION

- Drain Current  $I_D = 70A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 100V(\text{Min})$
- Fast Switching Speed

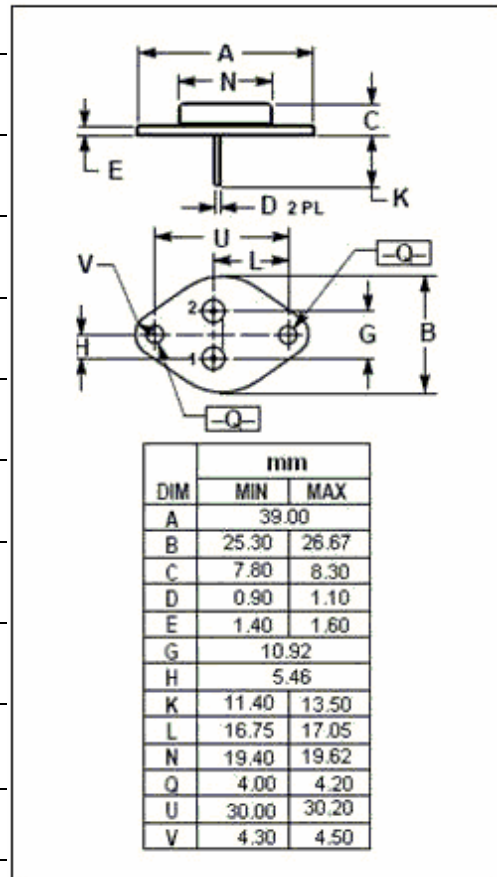
• APPLICATIONS

- General purpose power amplifier



ABSOLUTE MAXIMUM RATINGS( $T_C = 25^\circ C$ )

| SYMBOL        | PARAMETER                                    | VALUE    | UNIT       |
|---------------|--|----------|------------|
| $V_{DSS}$     | Drain-Source Voltage ( $V_{GS} = 0$ )        | 100      | V          |
| $V_{GS}$      | Gate-Source Voltage                          | $\pm 30$ | V          |
| $I_D$         | Drain Current-continuous@ $T_C = 25^\circ C$ | 70       | A          |
| $I_{D(puls)}$ | Pulse Drain Current                          | 280      | A          |
| $P_{tot}$     | Total Dissipation@ $T_C = 25^\circ C$        | 250      | W          |
| $T_j$         | Max. Operating Junction Temperature          | 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    | 0.5  | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 62.5 | $^\circ C/W$ |

**isc N-Channel MOSFET Transistor****70N10**• ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )

| SYMBOL        | PARAMETER                       | CONDITIONS   | MIN | TYPE | MAX       | UNIT          |
|---------------|---------------------------------|--|-----|------|-----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage  | $V_{GS}=0; I_D=250\mu\text{A}$                                   | 100 |      |           | V             |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}; I_D=250\mu\text{A}$                              | 2.0 |      | 4.0       | V             |
| $V_{SD}$      | Diode Forward On-Voltage        | $I_S=70\text{A}; V_{GS}=0$                                       |     |      | 1.4       | V             |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}; I_D=45\text{A}$                              |     |      | 0.025     | $\Omega$      |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}; V_{DS}=0$                                |     |      | $\pm 100$ | nA            |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=100\text{V}; V_{GS}=0$                                   |     |      | 1         | $\mu\text{A}$ |
| $C_{iss}$     | Input Capacitance               | $V_{DS}=25\text{V};$<br>$V_{GS}=0\text{V};$<br>$f_T=1\text{MHz}$ |     | 5800 |           | pF            |
| $C_{rss}$     | Reverse Transfer Capacitance    |  |     | 190  |           |               |
| $C_{oss}$     | Output Capacitance              |  |     | 300  |           |               |