

Philips Components

T-35-25

2N3819
N-channel J-FET

| Data sheet | |
|---------------|---------------------------|
| status | Preliminary specification |
| date of issue | October 1990 |
| | |

FEATURES

- Low cost
- Specified at 100 MHz
- Automatic insertion package.

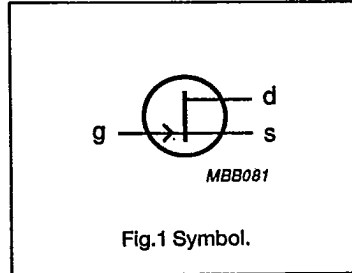
DESCRIPTION

N-channel junction field-effect transistor in a plastic TO-92 envelope. It is intended for use in general purpose amplifiers and for analog switching.

PINNING - TO-92

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | drain |
| 2 | gate |
| 3 | source |

PIN CONFIGURATION



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LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 134)

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|--------------|---------------------------|--------------------------------------|------|------|------------------|
| $\pm V_{DS}$ | drain-source voltage | | - | 25 | V |
| $-V_{GS0}$ | gate-source voltage | open drain $I_D = 0$ | - | 25 | V |
| V_{DG0} | drain-gate voltage | open source $I_S = 0$ | - | 25 | V |
| I_G | gate current | | - | 10 | mA |
| P_{tot} | total power dissipation | $T_{amb} = 25\text{ }^\circ\text{C}$ | - | 360 | mW |
| T_{stg} | storage temperature range | | -65 | 150 | $^\circ\text{C}$ |
| T_J | junction temperature | | - | 150 | $^\circ\text{C}$ |

THERMAL RESISTANCE

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|--------------------------|-------|------|
| $R_{th\ j-a}$ | from junction to ambient | 347 | K/W |

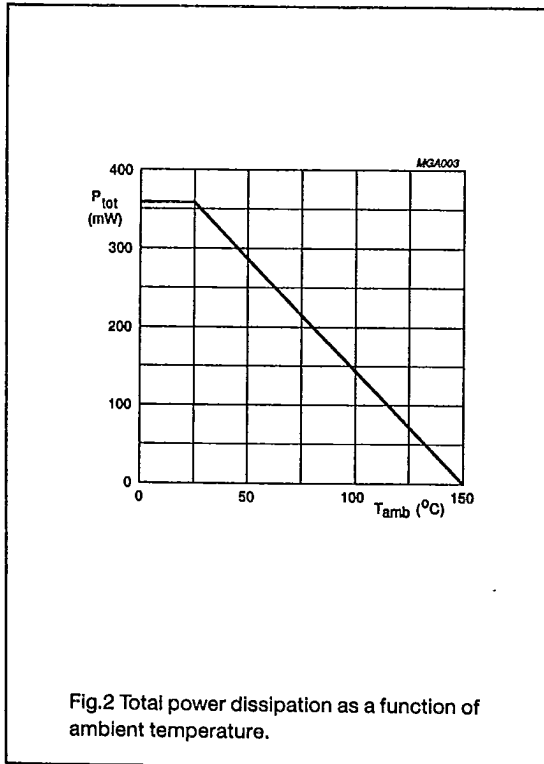


Fig.2 Total power dissipation as a function of ambient temperature.

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CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|----------------|-------------------------------|--|------|------|---------------|
| $-V_{(BR)GSS}$ | gate-source breakdown voltage | $V_{DS} = 0$ $-I_G = 1\text{ }\mu\text{A}$ | 25 | - | V |
| $-I_{GSS}$ | gate-source leakage current | $-V_{GS} = 15\text{ V}$ $V_{DS} = 0$ | - | 2 | nA |
| | | $-V_{GS} = 15\text{ V}$ $V_{DS} = 0$ $T_{amb} = 100\text{ }^{\circ}\text{C}$ | - | 2 | μA |
| I_{DSS} | drain-source current | $V_{GS} = 0$ $V_{DS} = 15\text{ V}$ | 2 | 20 | mA |
| $-V_{GS}$ | gate-source voltage | $I_D = 200\text{ }\mu\text{A}$ $V_{DS} = 15\text{ V}$ | 0.5 | 7.5 | V |
| $-V_{(P)GS}$ | gate-source cut-off voltage | $I_D = 2\text{ nA}$ $V_{DS} = 15\text{ V}$ | - | 8 | V |
| $ y_{fs} $ | transfer admittance | $V_{DS} = 15\text{ V}$ $V_{GS} = 0$ $f = 1\text{ kHz}$ | 2 | 6.5 | mS |
| $ y_{fs} $ | transfer admittance | $V_{DS} = 15\text{ V}$ $V_{GS} = 0$ $f = 100\text{ MHz}$ | 1.6 | - | mS |
| $ y_{os} $ | output admittance | $V_{DS} = 15\text{ V}$ $V_{GS} = 0$ $f = 1\text{ kHz}$ | - | 50 | μS |
| C_{iss} | input capacitance | $V_{DS} = 15\text{ V}$ $V_{GS} = 0$ $f = 1\text{ MHz}$ | - | 8 | pF |
| C_{rss} | feedback capacitance | $V_{DS} = 15\text{ V}$ $V_{GS} = 0$ $f = 1\text{ MHz}$ | - | 4 | pF |

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PACKAGE OUTLINE

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