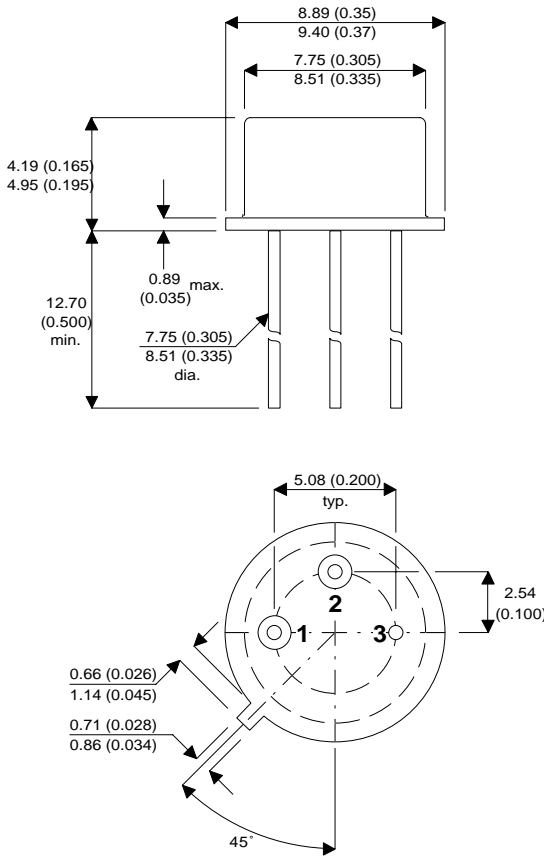


MECHANICAL DATA



TO-39 PACKAGE

PIN1 – DRAIN    PIN2 – GATE    PIN3 – SOURCE

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
5W – 28V – 400MHz  
SINGLE ENDED**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW  $C_{rss}$
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 13 dB MINIMUM

APPLICATIONS

- VHF COMMUNICATIONS  
from DC to 400MHz

ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

|              |  |                         |
|--------------|--|-------------------------|
| $P_D$        | Power Dissipation                      | 29W                     |
| $BV_{DSS}$   | Drain – Source Breakdown Voltage       | 65V                     |
| $BV_{GSS}$   | Gate – Source Breakdown Voltage        | $\pm 20V$               |
| $I_{D(sat)}$ | Drain Current                          | 2A                      |
| $T_{stg}$    | Storage Temperature                    | $-65$ to $150^{\circ}C$ |
| $T_j$        | Maximum Operating Junction Temperature | $200^{\circ}C$          |

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

| Parameter                                 | Test Conditions                        | Min. | Typ. | Max. | Unit    |
|---|--|------|------|------|---------|
| $BV_{DSS}$ Drain-Source Breakdown Voltage | $V_{GS} = 0$ $I_D = 10mA$              | 65   |      |      | V       |
| $I_{DSS}$ Zero Gate Voltage Drain Current | $V_{DS} = 28V$ $V_{GS} = 0$            |      |      | 2    | mA      |
| $I_{GSS}$ Gate Leakage Current            | $V_{GS} = 20V$ $V_{DS} = 0$            |      |      | 1    | $\mu A$ |
| $V_{GS(th)}$ Gate Threshold Voltage*      | $I_D = 10mA$ $V_{DS} = V_{GS}$         | 1    |      | 7    | V       |
| $g_{fs}$ Forward Transconductance*        | $V_{DS} = 10V$ $I_D = 0.4A$            | 0.36 |      |      | S       |
| $G_{PS}$ Common Source Power Gain         | $P_O = 5W$                             | 13   |      |      | dB      |
| $\eta$ Drain Efficiency                   | $V_{DS} = 28V$ $I_{DQ} = 0.2A$         | 40   |      |      | %       |
| VSWR Load Mismatch Tolerance              | $f = 400MHz$                           | 20:1 |      |      | —       |
| $C_{iss}$ Input Capacitance               | $V_{DS} = 0$ $V_{GS} = -5V$ $f = 1MHz$ |      |      | 20   | pF      |
| $C_{oss}$ Output Capacitance              | $V_{DS} = 28V$ $V_{GS} = 0$ $f = 1MHz$ |      |      | 11   | pF      |
| $C_{rss}$ Reverse Transfer Capacitance    | $V_{DS} = 28V$ $V_{GS} = 0$ $f = 1MHz$ |      |      | 1    | pF      |

\* Pulse Test: Pulse Duration = 300  $\mu s$  , Duty Cycle  $\leq 2\%$

**THERMAL DATA**

|                |                                    |                          |
|----------------|------------------------------------|--------------------------|
| $R_{THj-case}$ | Thermal Resistance Junction – Case | Max. 6.0 $^{\circ}C / W$ |
|----------------|------------------------------------|--------------------------|