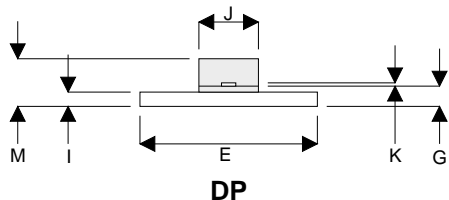
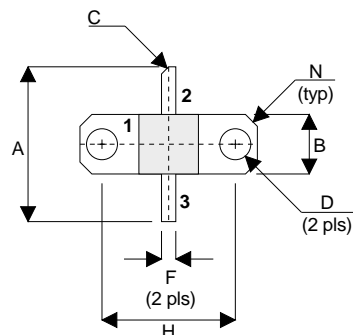


## MECHANICAL DATA

## GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 20W – 28V – 400MHz SINGLE ENDED



PIN 1 SOURCE PIN 2 DRAIN  
PIN 3 GATE

| DIM | mm         | Tol. | Inches      | Tol.  |
|-----|------------|------|-------------|-------|
| A   | 16.51      | 0.25 | 0.650       | 0.010 |
| B   | 6.35       | 0.13 | 0.250       | 0.005 |
| C   | 45°        | 5°   | 45°         | 5°    |
| D   | 3.30       | 0.13 | 0.130       | 0.005 |
| E   | 18.92      | 0.08 | 0.745       | 0.003 |
| F   | 1.52       | 0.13 | 0.060       | 0.005 |
| G   | 2.16       | 0.13 | 0.085       | 0.005 |
| H   | 14.22      | 0.08 | 0.560       | 0.003 |
| I   | 1.52       | 0.13 | 0.060       | 0.005 |
| J   | 6.35       | 0.13 | 0.250       | 0.005 |
| K   | 0.13       | 0.03 | 0.005       | 0.001 |
| M   | 5.08       | 0.51 | 0.200       | 0.020 |
| N   | 1.27 x 45° | 0.13 | 0.050 x 45° | 0.005 |

## FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW  $C_{rss}$
- USEFUL  $P_O$  AT 1GHz
- LOW NOISE
- HIGH GAIN – 13 dB MINIMUM

## APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS  
from 1 MHz to 400 MHz

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

|              |  |              |
|--------------|--|--------------|
| $P_D$        | Power Dissipation                      | 87.5W        |
| $BV_{DSS}$   | Drain – Source Breakdown Voltage       | 70V          |
| $BV_{GSS}$   | Gate – Source Breakdown Voltage        | ±20V         |
| $I_{D(sat)}$ | Drain Current                          | 10A          |
| $T_{stg}$    | Storage Temperature                    | -65 to 150°C |
| $T_j$        | Maximum Operating Junction Temperature | 200°C        |

## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25°C unless otherwise stated)

| Parameter   | Test Conditions  | Min. | Typ. | Max. | Unit |
|---|--|------|------|------|------|
| B <sub>V</sub> DSS<br>Drain–Source Breakdown Voltage  | V <sub>GS</sub> = 0      I <sub>D</sub> = 100mA              | 70   |      |      | V    |
| I <sub>D</sub> DSS<br>Zero Gate Voltage Drain Current | V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0               |      |      | 2    | mA   |
| I <sub>G</sub> DSS<br>Gate Leakage Current            | V <sub>GS</sub> = 20V      V <sub>DS</sub> = 0               |      |      | 1    | μA   |
| V <sub>GS(th)</sub><br>Gate Threshold Voltage*        | I <sub>D</sub> = 10mA      V <sub>DS</sub> = V <sub>GS</sub> | 1    |      | 7    | V    |
| g <sub>fs</sub><br>Forward Transconductance*          | V <sub>DS</sub> = 10V      I <sub>D</sub> = 1A               | 1.6  |      |      | S    |
| G <sub>PS</sub><br>Common Source Power Gain           | P <sub>O</sub> = 20W   | 13   |      |      | dB   |
| η<br>Drain Efficiency                                 | V <sub>DS</sub> = 28V      I <sub>DQ</sub> = 0.2A            | 60   |      |      | %    |
| VSWR<br>Load Mismatch Tolerance                       | f = 400MHz   | 20:1 |      |      | —    |
| C <sub>iss</sub><br>Input Capacitance                 | V <sub>DS</sub> = 0      V <sub>GS</sub> = -5V      f = 1MHz |      |      | 120  | pF   |
| C <sub>oss</sub><br>Output Capacitance                | V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0      f = 1MHz |      |      | 50   | pF   |
| C <sub>rss</sub><br>Reverse Transfer Capacitance      | V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0      f = 1MHz |      |      | 5    | pF   |

\* Pulse Test: Pulse Duration = 300 μs , Duty Cycle ≤ 2%

## HAZARDOUS MATERIAL WARNING

The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

**THESE DEVICES MUST NEVER BE THROWN AWAY WITH GENERAL INDUSTRIAL OR DOMESTIC WASTE.**

## THERMAL DATA

|                       |                                    |                |
|-----------------------|------------------------------------|----------------|
| R <sub>THj-case</sub> | Thermal Resistance Junction – Case | Max. 2.0°C / W |
|-----------------------|------------------------------------|----------------|