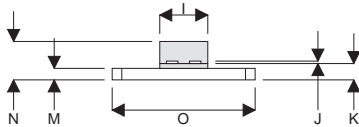
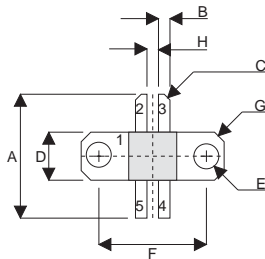


MECHANICAL DATA

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
45W – 28V – 500MHz  
PUSH-PULL**



DQ

PIN 1 SOURCE (COMMON) PIN 2 DRAIN 1  
 PIN 3 DRAIN 2 PIN 4 GATE 2  
 PIN 5 GATE 1

| DIM | mm         | Tol. | Inches     | Tol.  |
|-----|------------|------|------------|-------|
| A   | 16.38      | 0.26 | 0.645      | 0.010 |
| B   | 1.52       | 0.13 | 0.060      | 0.005 |
| C   | 45°        | 5°   | 45°        | 5°    |
| D   | 6.35       | 0.13 | 0.250      | 0.005 |
| E   | 3.30       | 0.13 | 0.130      | 0.005 |
| F   | 14.22      | 0.13 | 0.560      | 0.005 |
| G   | 1.27 x 45° | 0.13 | 0.05 x 45° | 0.005 |
| H   | 1.52       | 0.13 | 0.060      | 0.005 |
| I   | 6.35       | 0.13 | 0.250      | 0.005 |
| J   | 0.13       | 0.02 | 0.005      | 0.001 |
| K   | 2.16       | 0.13 | 0.085      | 0.005 |
| M   | 1.52       | 0.13 | 0.060      | 0.005 |
| N   | 5.08       | MAX  | 0.200      | MAX   |
| O   | 18.90      | 0.13 | 0.744      | 0.005 |

FEATURES

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

APPLICATIONS

- VHF/UHF COMMUNICATIONS  
from 50 MHz to 1 GHz

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

|              |  |                         |
|--------------|--|-------------------------|
| $P_D$        | Power Dissipation                      | 125W                    |
| $BV_{DSS}$   | Drain – Source Breakdown Voltage *     | 65V                     |
| $BV_{GSS}$   | Gate – Source Breakdown Voltage *      | $\pm 20V$               |
| $I_{D(sat)}$ | Drain Current *                        | 5A                      |
| $T_{stg}$    | Storage Temperature                    | $-65$ to $150^{\circ}C$ |
| $T_j$        | Maximum Operating Junction Temperature | $200^{\circ}C$          |

\* Per Side

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

| Parameter           | Test Conditions                 | Min.   | Typ. | Max. | Unit |
|---------------------|---------------------------------|--|------|------|------|
| <b>PER SIDE</b>     |                                 |  |      |      |      |
| B <sub>V</sub> DSS  | Drain–Source Breakdown Voltage  | V <sub>GS</sub> = 0      I <sub>D</sub> = 10mA                 | 65   |      | V    |
| I <sub>D</sub> DSS  | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0                 |      | 1    | mA   |
| I <sub>G</sub> DSS  | Gate Leakage Current            | V <sub>GS</sub> = 20V      V <sub>DS</sub> = 0                 |      | 1    | μA   |
| V <sub>GS(th)</sub> | Gate Threshold Voltage*         | I <sub>D</sub> = 10mA      V <sub>DS</sub> = V <sub>GS</sub>   | 1    | 7    | V    |
| g <sub>fs</sub>     | Forward Transconductance*       | V <sub>DS</sub> = 10V      I <sub>D</sub> = 1A                 | 0.9  |      | S    |
| <b>TOTAL DEVICE</b> |                                 |  |      |      |      |
| G <sub>PS</sub>     | Common Source Power Gain        | P <sub>O</sub> = 45W   | 13   |      | dB   |
| η                   | Drain Efficiency                | V <sub>DS</sub> = 28V      I <sub>DQ</sub> = 0.5A              | 40   |      | %    |
| VSWR                | Load Mismatch Tolerance         | f = 500MHz   | 20:1 |      | —    |
| <b>PER SIDE</b>     |                                 |  |      |      |      |
| C <sub>iss</sub>    | Input Capacitance               | V <sub>DS</sub> = 28V      V <sub>GS</sub> = -5V      f = 1MHz |      | 60   | pF   |
| C <sub>oss</sub>    | Output Capacitance              | V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0      f = 1MHz   |      | 30   | pF   |
| C <sub>rss</sub>    | Reverse Transfer Capacitance    | V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0      f = 1MHz   |      | 2.5  | 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. 1.4°C / W |
|-----------------------|------------------------------------|----------------|