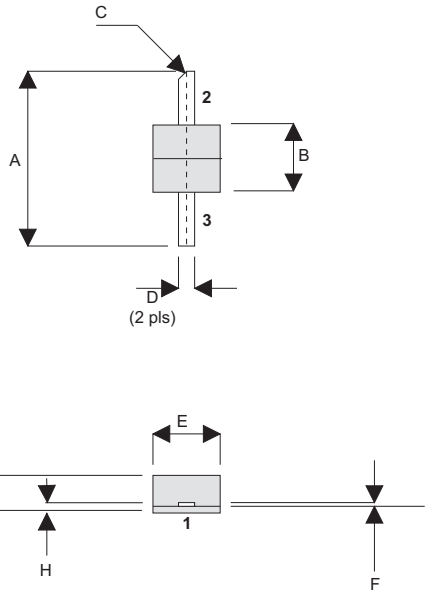
# D2017UK

## METAL GATE RF SILICON FET

### MECHANICAL DATA




**DP**

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 | 1.52 | 0.13 | 0.060 | 0.005 |
| E | 6.35 | 0.13 | 0.250 | 0.005 |
| F | 0.13 | 0.03 | 0.005 | 0.001 |
| G | 3.56 | 0.51 | 0.140 | 0.020 |
| H | 0.64 | 0.13 | 0.024 | 0.005 |

# GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 5W – 28V – 1GHz 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/UHF COMMUNICATIONS from DC to 1 GHz

## ABSOLUTE MAXIMUM RATINGS ($T_{case}$ = 25°C unless otherwise stated)

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

**Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.**

**Semelab plc.** Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

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## ELECTRICAL CHARACTERISTICS ($T_{case}$ = 25°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 | µA |
| $V_{GS(th)}$ | 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 |
| η | Drain Efficiency | $V_{DS}$ = 28V | $I_{DQ}$ = 0.2A | | 40 | | | % |
| VSWR | Load Mismatch Tolerance | f = 1GHz | | | 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 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

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

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