

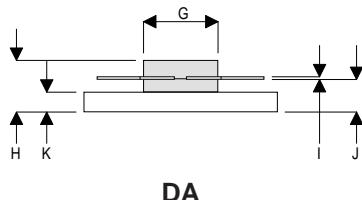
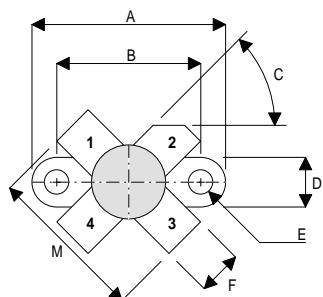
**SEME  
LAB**

TetraFET

**D2007UK**

METAL GATE RF SILICON FET

#### MECHANICAL DATA



PIN 1	SOURCE	PIN 2	DRAIN
PIN 3	SOURCE	PIN 4	GATE

## **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/UHF COMMUNICATIONS  
from DC to 500 MHz

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

$P_D$	Power Dissipation	29W
$BV_{DSS}$	Drain – Source Breakdown Voltage	65V
$BV_{GSS}$	Gate – Source Breakdown Voltage	$\pm 20\text{V}$
$I_{D(sat)}$	Drain Current	2A
$T_{stg}$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°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
$G_P S$	Common Source Power Gain	$P_O = 5W$		13		dB
$\eta$	Drain Efficiency	$V_{DS} = 28V$	$I_{DQ} = 0.2A$	40		%
VSWR	Load Mismatch Tolerance	$f = 400 MHz$		20:1		—
$C_{iss}$	Input Capacitance	$V_{DS} = 0$	$V_{GS} = -5V$		20	pF
$C_{oss}$	Output Capacitance	$V_{DS} = 28V$	$V_{GS} = 0$		11	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 28V$	$V_{GS} = 0$		1	pF

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

**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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