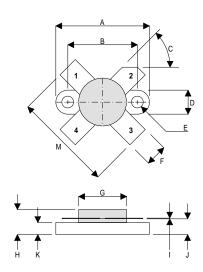
### TetraFET

# D1036UK



## **ROHS COMPLIANT METAL GATE RF SILICON FET**

#### MECHANICAL DATA



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

DIM	mm	Tol.	Inches	Tol.
Α	24.76	0.13	0.975	0.005
В	18.42	0.13	0.725	0.005
С	45°	5°	45°	5°
D	6.35	0.13	0.25	0.005
Е	3.17 Dia.	0.13	0.125 Dia.	0.005
F	5.71	0.13	0.225	0.005
G	12.7 Dia.	0.13	0.500 Dia.	0.005
Н	6.60	REF	0.260	REF
I	0.13	0.02	0.005	0.001
J	4.32	0.13	0.170	0.005
K	3.17	0.13	0.125	0.005
М	26.16	0.25	1.03	0.010

## GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 100W – 28V – 175MHz SINGLE ENDED

## FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW C<sub>rss</sub>
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN 13 dB MINIMUM

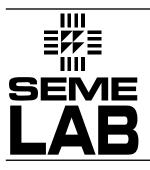
## **APPLICATIONS**

• HF/VHF/UHF COMMUNICATIONS from 1 MHz to 200 MHz

## ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

PD	Power Dissipation	175W
BV <sub>DSS</sub>	Drain – Source Breakdown Voltage	70V
BV <sub>GSS</sub>	Gate – Source Breakdown Voltage	±20V
I <sub>D(sat)</sub>	Drain Current	25A
T <sub>stg</sub>	Storage Temperature	–65 to 150°C
Tj	Maximum Operating Junction Temperature	200°C

Semelab PIc 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.



Parameter		Test Conditions		Min.	Тур.	Max.	Unit
B\/	Drain–Source	V <sub>GS</sub> = 0	I <sub>D</sub> = 100mA	70			V
BV <sub>DSS</sub>	Breakdown Voltage	VGS – 0	ID - 1001114	70			v
	Zero Gate Voltage	1/2 = -281/2	V <sub>GS</sub> = 0			5	mA
DSS	Drain Current	$V_{DS} = 28V$				5	
I <sub>GSS</sub>	Gate Leakage Current	$V_{GS} = 20V$	$V_{DS} = 0$			1	μΑ
V <sub>GS(th)</sub>	Gate Threshold Voltage*	I <sub>D</sub> = 10mA	$V_{DS} = V_{GS}$	1		7	V
9 <sub>fs</sub>	Forward Transconductance*	V <sub>DS</sub> = 10V	I <sub>D</sub> = 5A	4.0			S
G <sub>PS</sub>	Common Source Power Gain	P <sub>O</sub> = 100W		13			dB
η	Drain Efficiency	$V_{DS} = 28V$	I <sub>DQ</sub> = 0.5A	50			%
VSWR	Load Mismatch Tolerance	f = 175MHz		20:1			
C <sub>iss</sub>	Input Capacitance	$V_{DS} = 0V$	$V_{GS} = -5V$ f = 1MHz			300	pF
C <sub>oss</sub>	Output Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = 0$ f = 1MHz			150	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = 0$ f = 1MHz			12.5	pF

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

\* 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 <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 1.0°C / W
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