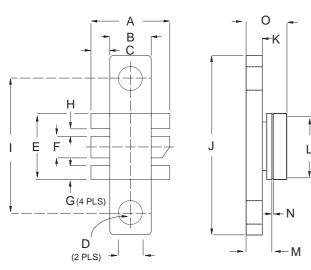


## **D2014UK**

### **METAL GATE RF SILICON FET**

#### **MECHANICAL DATA**



#### **SOT 171**

PIN 1	PIN 1 SOURCE		SOURCE		
PIN 3	GATE	PIN 4	DRAIN		
PIN 5	SOURCE	PIN 6	SOURCE		

DIM	mm	Tol.	Inches	Tol.
Α	10.92	0.25	0.430	0.001
В	5.84	0.08	0.230	0.003
С	2.54	0.08	0.100	0.003
D	3.30 dia	0.13	0.130 dia	0.05
E	9.14	0.08	0.360	0.003
F	3.05	0.08	0.120	0.003
G	2.01	0.08	0.079	0.003
Н	1.04	0.08	0.041	0.003
- 1	18.42	0.08	0.725	0.003
J	24.77	0.08	0.975	0.003
K	2.74	0.08	0.108	0.003
L	9.14	0.13	0.360	0.005
М	4.19	0.08	0.165	0.003
N	0.13	0.05	0.005	0.002
0	7.11	MAX	0.280	MAX

# **GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET** 2.5W - 28V - 500MHzSINGLE ENDED

### **FEATURES**

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND **APPLICATIONS**
- LOW Crss
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN 13 dB MINIMUM

### **APPLICATIONS**

 VHF/UHF COMMUNICATIONS from DC to 1 GHz

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

$\overline{P_D}$	Power Dissipation	17.5W
BV <sub>DSS</sub>	Drain – Source Breakdown Voltage	65V
$BV_{GSS}$	Gate – Source Breakdown Voltage	±20V
I <sub>D(sat)</sub>	Drain Current	1A
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.

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

Parameter		Test Conditions		Min.	Тур.	Max.	Unit
D\/	Drain-Source	V <sub>GS</sub> = 0	I <sub>D</sub> = 10mA	65			V
BV <sub>DSS</sub>	Breakdown Voltage	VGS = 0	ID = IOIIIA	05			V
,	Zero Gate Voltage	V 20V	' V <sub>GS</sub> = 0			1	т Л
I <sub>DSS</sub>	Drain Current	$V_{DS} = 28V$				'	mA
I <sub>GSS</sub>	Gate Leakage Current	V <sub>GS</sub> = 20V	V <sub>DS</sub> = 0			1	μΑ
V <sub>GS(th)</sub>	Gate Threshold Voltage*	$I_D = 10mA$	$V_{DS} = V_{GS}$	1		7	V
9 <sub>fs</sub>	Forward Transconductance*	V <sub>DS</sub> = 10V	I <sub>D</sub> = 0.2A	0.18			S
G <sub>PS</sub>	Common Source Power Gain	$P_{O} = 2.5W$		13			dB
η	Drain Efficiency	V <sub>DS</sub> = 28V	$I_{DQ} = 0.1A$	40			%
VSWR	Load Mismatch Tolerance	f = 500MHz	7	20:1			_
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = -5V f = 1MHz$			12	pF
C <sub>oss</sub>	Output Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = 0$ $f = 1MHz$			6	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = 0$ $f = 1MHz$			0.5	pF

<sup>\*</sup> 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. 10°C / W
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