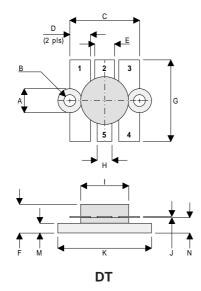


### D2204UK

### ROHS COMPLIANT METAL GATE RF SILICON FET

#### **MECHANICAL DATA**



PIN 1 SOURCE (COMMON) PIN 2 **GATE** 

PIN 3 SOURCE (COMMON) PIN 4 SOURCE (COMMON)

PIN 5 DRAIN

DIM	mm	Tol.	Inches	Tol.	
Α	6.35 DIA	0.13	0.250 DIA	0.005	
В	3.17 DIA	0.13	0.125 DIA	0.005	
С	18.41	0.25	0.725	0.010	
D	5.46	0.13	0.215	0.005	
E	5.21	0.13	0.205	0.005	
F	7.62	MAX	0.300	MAX	
G	21.59	0.38	0.850	0.015	
Н	3.94	0.13	0.155	0.005	
- 1	12.70	0.13	0.500	0.005	
J	0.13	0.03	0.005	0.001	
K	24.76	0.13	0.975	0.005	
M	2.59	0.13	0.102	0.005	
N	4.06	0.25	0.160	0.010	

# **GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET** 20W - 12.5V - 900MHzSINGLE ENDED

#### **FEATURES**

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND **APPLICATIONS**
- LOW Crss
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN 10 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	70W
BV <sub>DSS</sub>	Drain – Source Breakdown Voltage	40V
$BV_GSS$	Gate – Source Breakdown Voltage	±20V
I <sub>D(sat)</sub>	Drain Current	16A
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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**Document Number 3038** Issue 1

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## **D2204UK**

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

Parameter		Test Conditions		Min.	Тур.	Max.	Unit
R\/	Drain-Source	V <sub>GS</sub> = 0	I <sub>D</sub> = 10mA	40			V
BV <sub>DSS</sub>	Breakdown Voltage	VGS - 0	ID = IOIIIA	40			\ \ \
I <sub>DSS</sub>	Zero Gate Voltage	\/ _ 12.5\/	V V 0			8	mA
	Drain Current	$V_{DS} = 12.5V$	$V_{GS} = 0$			o   	IIIA
I <sub>GSS</sub>	Gate Leakage Current	V <sub>GS</sub> = 20V	V <sub>DS</sub> = 0			8	μΑ
V <sub>GS(th)</sub>	Gate Threshold Voltage*	I <sub>D</sub> = 10mA	$V_{DS} = V_{GS}$	0.5		7	V
9 <sub>fs</sub>	Forward Transconductance*	V <sub>DS</sub> = 10V	I <sub>D</sub> = 1.6A	1.44			S
G <sub>PS</sub>	Common Source Power Gain	P <sub>O</sub> = 20W		10			dB
η	Drain Efficiency	$V_{DS} = 12.5V$	I <sub>DQ</sub> = 1.6A	40			%
VSWR	Load Mismatch Tolerance	f = 900MHz		20:1			_
C <sub>iss</sub>	Input Capacitance	$V_{DS} = 0$ $V_{C}$	GS = -5V $f = 1MHz$			96	pF
C <sub>oss</sub>	Output Capacitance	V <sub>DS</sub> = 12.5V V <sub>0</sub>	GS = 0 $f = 1MHz$			80	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	$V_{DS} = 12.5 V V_{OS}$	GS = 0 $f = 1MHz$			8	pF

<sup>\*</sup> 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. 2.5°C / W
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