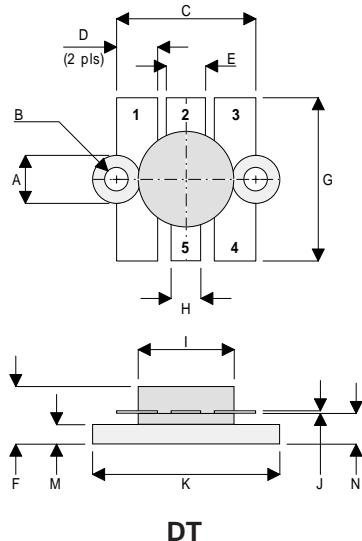


D2204UK

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.
A	6.35 DIA	0.13	0.250 DIA	0.005
B	3.17 DIA	0.13	0.125 DIA	0.005
C	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
H	3.94	0.13	0.155	0.005
I	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 – 900MHz
SINGLE ENDED**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND

APPLICATIONS

- LOW C_{rss}
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 10 dB MINIMUM

APPLICATIONS

- VHF/UHF COMMUNICATIONS
from DC to 1 GHz

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

P_D	Power Dissipation	70W
BV_{DSS}	Drain – Source Breakdown Voltage	40V
BV_{GSS}	Gate – Source Breakdown Voltage	$\pm 20\text{V}$
$I_{D(sat)}$	Drain Current	16A
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.

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Issue 1

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^\circ C$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0$	$I_D = 10mA$	40	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 12.5V$	$V_{GS} = 0$	8	mA
I_{GSS}	Gate Leakage Current	$V_{GS} = 20V$	$V_{DS} = 0$	8	μA
$V_{GS(th)}$	Gate Threshold Voltage*	$I_D = 10mA$	$V_{DS} = V_{GS}$	0.5	V
g_{fs}	Forward Transconductance*	$V_{DS} = 10V$	$I_D = 1.6A$	1.44	S
G_{PS}	Common Source Power Gain	$P_O = 20W$		10	dB
η	Drain Efficiency	$V_{DS} = 12.5V$	$I_{DQ} = 1.6A$	40	%
VSWR	Load Mismatch Tolerance	$f = 900MHz$		20:1	—
C_{iss}	Input Capacitance	$V_{DS} = 0$	$V_{GS} = -5V$	96	pF
C_{oss}	Output Capacitance	$V_{DS} = 12.5V$	$V_{GS} = 0$	80	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 12.5V$	$V_{GS} = 0$	8	pF

* Pulse Test: Pulse Duration = 300 μs , 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. 2.5°C / W
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