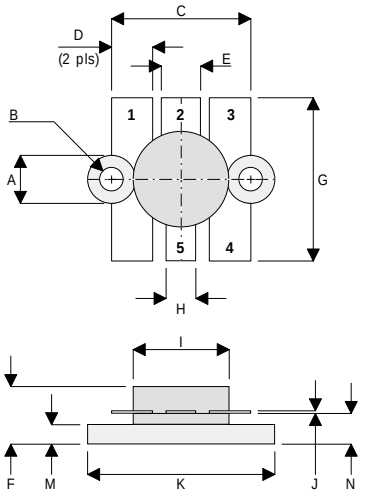
D1204UK

METAL GATE RF SILICON FET

MECHANICAL DATA



DT

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 30W – 12.5V – 500MHz SINGLE ENDED

FEATURES

- **SIMPLIFIED AMPLIFIER DESIGN**
- **SUITABLE FOR BROAD BAND APPLICATIONS**
- **LOW C_{rss}**
- **USEFUL P_O AT 1GHz**
- **LOW NOISE**
- **HIGH GAIN – 10 dB MINIMUM**

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS from 1 MHz to 1 GHz

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

P_D	Power Dissipation	117W
BV_{DSS}	Drain – Source Breakdown Voltage	40V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	15A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
BV_{DSS}	Drain–Source Breakdown Voltage	V_{GS} = 0	I_D = 100mA	40			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 12.5V	V_{GS} = 0			1	mA
I_{GSS}	Gate Leakage Current	V_{GS} = 20V	V_{DS} = 0			3	µA
$V_{GS(th)}$	Gate Threshold Voltage*	I_D = 10mA	V_{DS} = V_{GS}	0.5		7	V
g_{fs}	Forward Transconductance*	V_{DS} = 10V	I_D = 1A	1.2			S
G_{PS}	Common Source Power Gain	P_O = 30W		10			dB
η	Drain Efficiency	V_{DS} = 12.5V	I_{DQ} = 0.6A	50			%
VSWR	Load Mismatch Tolerance	f = 500MHz		20:1			—
C_{iss}	Input Capacitance	V_{DS} = 0	V_{GS} = –5V f = 1MHz			180	pF
C_{oss}	Output Capacitance	V_{DS} = 12.5V	V_{GS} = 0 f = 1MHz			120	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 12.5V	V_{GS} = 0 f = 1MHz			12	pF

* 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

$R_{THj–case}$	Thermal Resistance Junction – Case	Max. 1.5°C / W

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