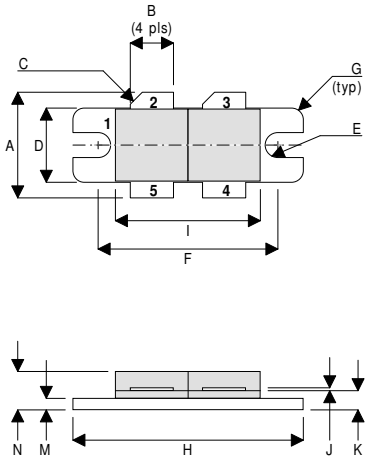
D5012UK

METAL GATE RF SILICON FET

MECHANICAL DATA



DH

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	GATE 2
PIN 5	GATE 1		

DIM	mm	Tol.	Inches	Tol.
A	13.97	0.26	0.550	0.010
B	5.72	0.13	0.225	0.005
C	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
E	1.65R	0.13	0.065R	0.005
F	23.75	0.13	0.935	0.005
G	1.52R	0.13	0.060R	0.005
H	30.48	0.13	1.200	0.005
I	19.17	0.26	0.755	0.010
J	0.13	0.02	0.005	0.001
K	2.54	0.13	0.100	0.005
M	1.52	0.13	0.060	0.005
N	5.08	0.50	0.200	0.020

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 100W – 50V – 500MHz PUSH–PULL

FEATURES

- **SIMPLIFIED AMPLIFIER DESIGN**
- **SUITABLE FOR BROAD BAND APPLICATIONS**
- **LOW C_{rss}**
- **SIMPLE BIAS CIRCUITS**
- **LOW NOISE**
- **HIGH GAIN – 10 dB MINIMUM**

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS from 1 MHz to 500 MHz

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

P_D	Power Dissipation	290W
BV_{DSS}	Drain – Source Breakdown Voltage *	125V
BV_{GSS}	Gate – Source Breakdown Voltage *	±20V
$I_{D(sat)}$	Drain Current *	9A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

* Per Side

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

Document Number 6711
Issue 1

D5012UK

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
PER SIDE							
BV_{DSS}	Drain–Source Breakdown Voltage	V_{GS} = 0	I_D = 100mA	125			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 50V	V_{GS} = 0			3	mA
I_{GSS}	Gate Leakage Current	V_{GS} = 20V	V_{DS} = 0			1	µA
$V_{GS(th)}$	Gate Threshold Voltage*	I_D = 10mA	V_{DS} = V_{GS}	1		7	V
g_{fs}	Forward Transconductance*	V_{DS} = 10V	I_D = 1.5A	2.4			S
TOTAL DEVICE							
G_{PS}	Common Source Power Gain	P_O = 100W		10			dB
η	Drain Efficiency	V_{DS} = 50V	I_{DQ} = 0.6A	50			%
VSWR	Load Mismatch Tolerance	f = 500MHz		20:1			—
PER SIDE							
C_{iss}	Input Capacitance	V_{DS} = 50V	V_{GS} = –5V f = 1MHz			180	pF
C_{oss}	Output Capacitance	V_{DS} = 50V	V_{GS} = 0 f = 1MHz			75	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 50V	V_{GS} = 0 f = 1MHz			4.5	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. 0.6°C / W

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

Document Number 6711
Issue 1