D2007UK

METAL GATE RF SILICON FET

MECHANICAL DATA
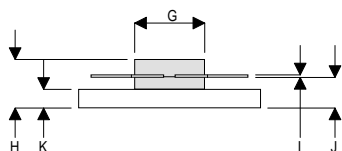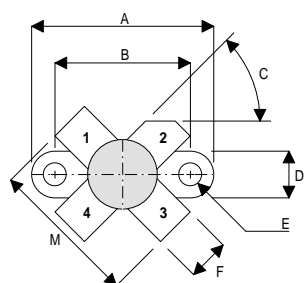

DA

PIN 1	SOURCE	PIN 2	DRAIN
PIN 3	SOURCE	PIN 4	GATE

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET
5W – 28V – 400MHz
SINGLE ENDED

FEATURES

- **SIMPLIFIED AMPLIFIER DESIGN**

- **SUITABLE FOR BROAD BAND APPLICATIONS**

- **LOW C_{rss}**

- **SIMPLE BIAS CIRCUITS**

- **LOW NOISE**

- **HIGH GAIN – 13 dB MINIMUM**

APPLICATIONS

- VHF/UHF COMMUNICATIONS
  from DC to 500 MHz

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

P_D	Power Dissipation	29W
BV_{DSS}	Drain – Source Breakdown Voltage	65V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	2A
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	$V_{GS} = 0$	$I_D = 10mA$	65			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 28V$	$V_{GS} = 0$			2	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*	$V_{DS} = 10V$	$I_D = 0.4A$	0.36			S
G_{PS}	Common Source Power Gain	$P_O = 5W$		13			dB
η	Drain Efficiency	$V_{DS} = 28V$	$I_{DQ} = 0.2A$	40			%
VSWR	Load Mismatch Tolerance	f = 400 MHz		20:1			—
C_{iss}	Input Capacitance	$V_{DS} = 0$ $V_{GS} = -5V$	f = 1MHz			20	pF
C_{oss}	Output Capacitance	$V_{DS} = 28V$ $V_{GS} = 0$	f = 1MHz			11	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 28V$ $V_{GS} = 0$	f = 1MHz			1	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. 6.0°C / W