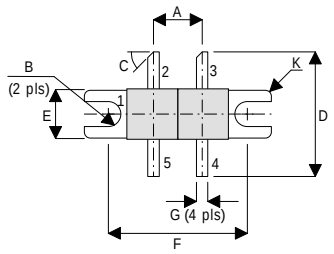
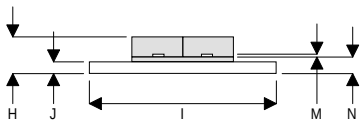
D2006UK

METAL GATE RF SILICON FET

MECHANICAL DATA

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 15W – 28V – 1GHz PUSH–PULL





DK

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	6.45	0.13	0.254	0.005
B	1.65R	0.13	0.065R	0.005
C	45°	5°	45°	5°
D	16.51	0.76	0.650	0.03
E	6.47	0.13	0.255	0.005
F	18.41	0.13	0.725	0.005
G	1.52	0.13	0.060	0.005
H	4.82	0.25	0.190	0.010
I	24.76	0.13	0.975	0.005
J	1.52	0.13	0.060	0.005
K	0.81R	0.13	0.032R	0.005
M	0.13	0.02	0.005	0.001
N	2.16	0.13	0.085	0.005

FEATURES

- **SIMPLIFIED AMPLIFIER DESIGN**
- **SUITABLE FOR BROAD BAND APPLICATIONS**
- **VERY LOW C_{rss}**
- **SIMPLE BIAS CIRCUITS**
- **LOW NOISE**
- **HIGH GAIN – 13 dB MINIMUM**

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS from DC to 2 GHz

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

P_D	Power Dissipation	70W
BV_{DSS}	Drain – Source Breakdown Voltage *	65V
BV_{GSS}	Gate – Source Breakdown Voltage *	±20V
$I_{D(sat)}$	Drain Current *	3A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

* Per Side

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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 = 10mA		65			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 28V	V_{GS} = 0				0.6	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 = 0.6A		0.54			S
TOTAL DEVICE								
G_{PS}	Common Source Power Gain	P_O = 15W			13			dB
η	Drain Efficiency	V_{DS} = 28V	I_{DQ} = 0.6A		40			%
VSWR	Load Mismatch Tolerance	f = 1GHz			20:1			—
PER SIDE								
C_{iss}	Input Capacitance	V_{DS} = 0	V_{GS} = –5V	f = 1MHz			36	pF
C_{oss}	Output Capacitance	V_{DS} = 28V	V_{GS} = 0	f = 1MHz			18	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 28V	V_{GS} = 0	f = 1MHz			1.5	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. 2.5°C / W