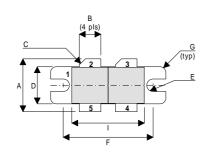
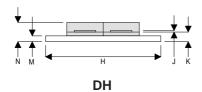


D1015UK

METAL GATE RF SILICON FET

MECHANICAL DATA





DRAIN 1 PIN 1 SOURCE (COMMON) PIN₂ PIN₃ DRAIN 2 PIN 4 GATE 2

GATE 1 PIN 5

DIM	mm	Tol.	Inches	Tol.
Α	13.97	0.26	0.550	0.010
В	5.72	0.13	0.225	0.005
С	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
Е	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
Н	30.48	0.13	1.200	0.005
1	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
М	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 125W - 28V - 400MHzPUSH-PULL

FEATURES

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

APPLICATIONS

 HF/VHF/UHF COMMUNICATIONS from 1 MHz to 400 MHz

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

P_{D}	Power Dissipation	350W
BV_{DSS}	Drain – Source Breakdown Voltage *	70V
BV_{GSS}	Gate – Source Breakdown Voltage *	±20V
I _{D(sat)}	Drain Current *	20A
T _{stg}	Storage Temperature	−65 to 150°C
T _j	Maximum Operating Junction Temperature	200°C

^{*} Per Side

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

Parameter		Test Conditions		Min.	Тур.	Max.	Unit
	PER SIDE						
BV _{DSS}	Drain-Source	V _{GS} = 0	I _D = 100mA	70			V
	Breakdown Voltage	VGS - 0		70			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	Zero Gate Voltage	\/ 20\/	V _{GS} = 0			4	- A
IDSS	Drain Current	$V_{DS} = 28V$				4	mA
I _{GSS}	Gate Leakage Current	V _{GS} = 20V	V _{DS} = 0			1	μА
V _{GS(th)}	Gate Threshold Voltage*	I _D = 10mA	$V_{DS} = V_{GS}$	1		7	V
9 _{fs}	Forward Transconductance*	V _{DS} = 10V	I _D = 4A	3.2			S
	TOTAL DEVICE						
G _{PS}	Common Source Power Gain	P _O = 125W		13			dB
η	Drain Efficiency	V _{DS} = 28V	I _{DQ} = 1.6A	50			%
VSWR	Load Mismatch Tolerance	f = 500MHz		20:1			_
PER SIDE							
C _{iss}	Input Capacitance	$V_{DS} = 28V V_0$	_{GS} = -5V f = 1MHz			240	pF
C _{oss}	Output Capacitance	$V_{DS} = 28V V_0$	_{GS} = 0 f = 1MHz			120	pF
C _{rss}	Reverse Transfer Capacitance	$V_{DS} = 28V V_0$	_{GS} = 0 f = 1MHz			10	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. 0.5°C / W
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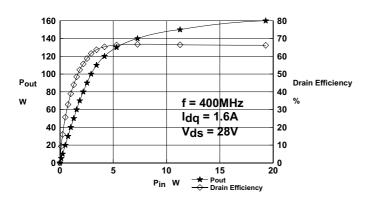
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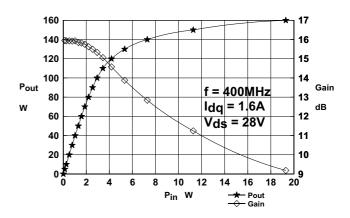


Figure 1
Power Output and Efficiency vs. Input Power

Figure 2
Power Output and Gain vs. Input Power

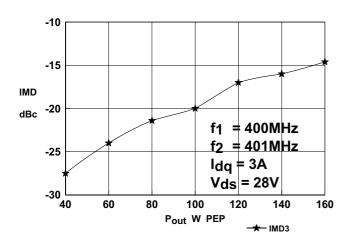


Figure 3
IMD vs. Output Power

D1015UK OPTIMUM SOURCE AND LOAD IMPEDANCE

Frequency	Z _S	Z _L
MHz	Ω	Ω
400	1.7 - i0.1	2.7 - i1

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