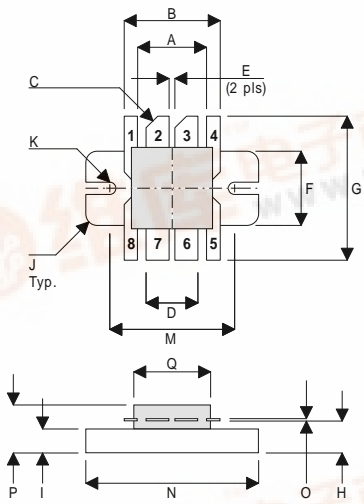


# D1018UK

## METAL GATE RF SILICON FET

### MECHANICAL DATA



**DD**

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	SOURCE (COMMON)
PIN 5	SOURCE (COMMON)	PIN 6	GATE 2
PIN 7	GATE 1	PIN 8	SOURCE (COMMON)

DIM	mm	Tol.	Inches	Tol.
A	9.14	0.13	0.360	0.005
B	12.70	0.13	0.500	0.005
C	45°	5°	45°	5°
D	6.86	0.13	0.270	0.005
E	0.76	0.13	0.030	0.005
F	9.78	0.13	0.385	0.005
G	19.05	0.25	0.750	0.010
H	4.19	0.13	0.165	0.005
I	3.17	0.13	0.125	0.005
J	1.52R	0.13	0.060R	0.005
K	1.65R	0.13	0.065R	0.005
M	16.51	0.13	0.650	0.005
N	22.86	0.13	0.900	0.005
O	0.13	0.02	0.005	0.001
P	6.35	0.64	0.250	0.025
Q	10.77	0.13	0.424	0.005

## GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 100W – 28V – 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<sub>case</sub> = 25°C unless otherwise stated)

$P_D$	Power Dissipation	250W
$BV_{DSS}$	Drain – Source Breakdown Voltage *	70V
$BV_{GSS}$	Gate – Source Breakdown Voltage *	±20V
$I_{D(sat)}$	Drain Current *	15A
$T_{stg}$	Storage Temperature	-65 to 150°C
	Maximum Operating Junction Temperature	200°C



## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
<b>PER SIDE</b>					
B <sub>V</sub> DSS	Drain–Source Breakdown Voltage V <sub>GS</sub> = 0 I <sub>D</sub> = 100mA	70			V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current V <sub>DS</sub> = 28V V <sub>GS</sub> = 0			3	mA
I <sub>GSS</sub>	Gate Leakage Current V <sub>GS</sub> = 20V V <sub>DS</sub> = 0			1	μA
V <sub>GS(th)</sub>	Gate Threshold Voltage * I <sub>D</sub> = 10mA V <sub>DS</sub> = V <sub>GS</sub>	1		7	V
g <sub>fs</sub>	Forward Transconductance * V <sub>DS</sub> = 10V I <sub>D</sub> = 3A	2.4			S
<b>TOTAL DEVICE</b>					
G <sub>PS</sub>	Common Source Power Gain P <sub>O</sub> = 100W	10			dB
η	Drain Efficiency V <sub>DS</sub> = 28V I <sub>DQ</sub> = 1.2A	50			%
VSWR	Load Mismatch Tolerance f = 500MHz	20:1			—
<b>PER SIDE</b>					
C <sub>iss</sub>	Input Capacitance V <sub>DS</sub> = 28V V <sub>GS</sub> = -5V f = 1MHz			180	pF
C <sub>oss</sub>	Output Capacitance V <sub>DS</sub> = 28V V <sub>GS</sub> = 0 f = 1MHz			90	pF
C <sub>rss</sub>	Reverse Transfer Capacitance V <sub>DS</sub> = 28V V <sub>GS</sub> = 0 f = 1MHz			7.5	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 <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 0.7°C / W
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