



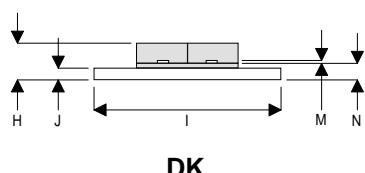
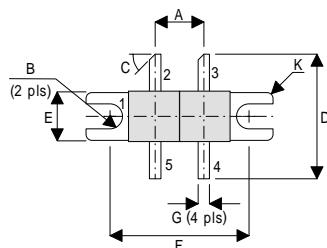
**SEME
LAB**

TetraFET

D1222UK

METAL GATE RF SILICON FET

MECHANICAL DATA



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

**GOLD METALLISED
MULTI-PURPOSE SILICON
DMOS RF FET
60W – 12.5V – 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 ($T_{case} = 25^\circ\text{C}$ unless otherwise stated)

P_D	Power Dissipation	290W
BV_{DSS}	Drain – Source Breakdown Voltage *	40V
BV_{GSS}	Gate – Source Breakdown Voltage *	$\pm 20\text{V}$
$I_{D(sat)}$	Drain Current*	30A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

* Per Side

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Document Number 3341

Issue 1

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^\circ C$ unless otherwise stated)

Parameter	Test Conditions		Min.	Typ.	Max.	Unit	
PER SIDE							
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0$	$I_D = 100mA$	40		V	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 12.5V$	$V_{GS} = 0$		1	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*	$V_{DS} = 10V$	$I_D = 3A$	2.4		mhos	
TOTAL DEVICE							
G_{PS}	Common Source Power Gain	$P_O = 60W$ $V_{DS} = 12.5V$ $f = 500MHz$	$I_{DQ} = 2.4A$	10		dB	
η	Drain Efficiency			50		%	
VSWR	Load Mismatch Tolerance			20:1		—	
PER SIDE							
C_{iss}	Input Capacitance	$V_{DS} = 0V$	$V_{GS} = -5V$	$f = 1MHz$		180	pF
C_{oss}	Output Capacitance	$V_{DS} = 12.5V$	$V_{GS} = 0$	$f = 1MHz$		120	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 12.5V$	$V_{GS} = 0$	$f = 1MHz$		12	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. 0.6°C / W
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