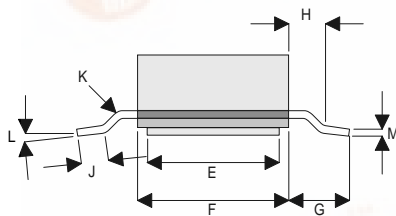
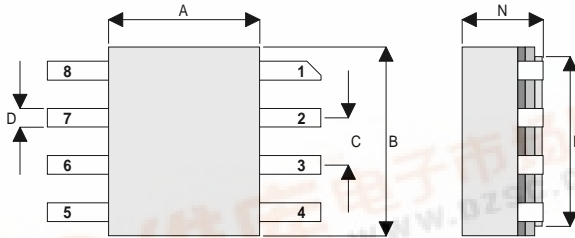


TetraFET

D2021UK

METAL GATE RF SILICON FET

MECHANICAL DATA



SO8 PACKAGE

- PIN 1 – SOURCE
- PIN 2 – DRAIN
- PIN 3 – DRAIN
- PIN 4 – SOURCE
- PIN 5 – SOURCE
- PIN 6 – GATE
- PIN 7 – GATE
- PIN 8 – SOURCE

Dim.	mm	Tol.	Inches	Tol.
A	4.06	±0.08	0.160	±0.003
B	5.08	±0.08	0.200	±0.003
C	1.27	±0.08	0.050	±0.003
D	0.51	±0.08	0.020	±0.003
E	3.56	±0.08	0.140	±0.003
F	4.06	±0.08	0.160	±0.003
G	1.65	±0.08	0.065	±0.003
H	0.76	+0.25 -0.00	0.030	+0.010 -0.000
J	0.51	Min.	0.020	Min.
	1.02	Max.	0.040	Max.
K	45°	Max.	45°	Max.
L	0°	Min.	0°	Min.
	7°	Max.	7°	Max.
M	0.20	±0.08	0.008	±0.003
N	2.18	Max.	0.086	Max.
P	4.57	±0.08	0.180	±0.003

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
7.5W – 28V – 1GHz  
SINGLE ENDED**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- VERY LOW  $C_{rss}$
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 10 dB MINIMUM

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS  
from 1 MHz to 1 GHz

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

$P_D$	Power Dissipation	17.5W
$BV_{DSS}$	Drain – Source Breakdown Voltage	65V
$BV_{GSS}$	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	3A
	Storage Temperature	-65 to 150°C
	Maximum Operating Junction Temperature	200°C



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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$ Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10\text{mA}$	65			V
$I_{DSS}$ Zero Gate Voltage Drain Current	$V_{DS} = 28\text{V}$ $V_{GS} = 0$			3	mA
$I_{GSS}$ Gate Leakage Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$			1	$\mu\text{A}$
$V_{GS(th)}$ Gate Threshold Voltage*	$I_D = 10\text{mA}$ $V_{DS} = V_{GS}$	0.5		7	V
$g_{fs}$ Forward Transconductance*	$V_{DS} = 10\text{V}$ $I_D = 0.6\text{A}$	0.54			S
$G_{PS}$ Common Source Power Gain	$P_O = 7.5\text{W}$	13			dB
$\eta$ Drain Efficiency	$V_{DS} = 28\text{V}$ $I_{DQ} = 0.3\text{A}$	40			%
VSWR Load Mismatch Tolerance	$f = 1\text{GHz}$	20:1			—
$C_{iss}$ Input Capacitance	$V_{DS} = 0\text{V}$ $V_{GS} = -5\text{V}$ $f = 1\text{MHz}$			36	pF
$C_{oss}$ Output Capacitance	$V_{DS} = 28\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			18	pF
$C_{rss}$ Reverse Transfer Capacitance	$V_{DS} = 28\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			1.5	pF

\* Pulse Test: Pulse Duration = 300  $\mu\text{s}$  , Duty Cycle  $\leq 2\%$

**THERMAL DATA**

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. 5°C / W
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