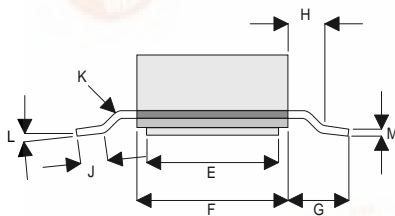
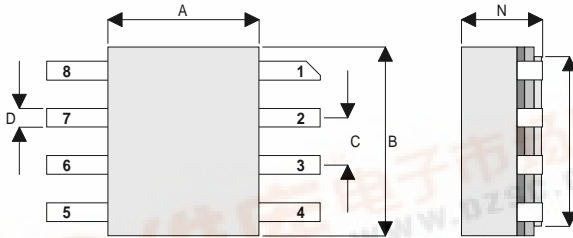


TetraFET

D1011UK

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  
10W – 28V – 1GHz  
SINGLE ENDED**

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 1 MHz to 1 GHz

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

$P_D$	Power Dissipation	30W
$BV_{DSS}$	Drain – Source Breakdown Voltage	70V
$BV_{GSS}$	Gate – Source Breakdown Voltage	±20V
$I_D(sat)$	Drain Current	5A
$T_j$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°C



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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV <sub>DSS</sub> 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			1	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> = 1A	0.8			S
G <sub>PS</sub> Common Source Power Gain	P <sub>O</sub> = 10W	13			dB
η Drain Efficiency	V <sub>DS</sub> = 28V I <sub>DQ</sub> = 0.1A	50			%
VSWR Load Mismatch Tolerance	f = 1GHz	20:1			—
C <sub>iss</sub> Input Capacitance	V <sub>DS</sub> = 0V V <sub>GS</sub> = -5V f = 1MHz			60	pF
C <sub>oss</sub> Output Capacitance	V <sub>DS</sub> = 28V V <sub>GS</sub> = 0 f = 1MHz			30	pF
C <sub>rss</sub> Reverse Transfer Capacitance	V <sub>DS</sub> = 28V V <sub>GS</sub> = 0 f = 1MHz			2.5	pF

\* Pulse Test: Pulse Duration = 300 μs , Duty Cycle ≤ 2%

## THERMAL DATA

R <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 6°C / W
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