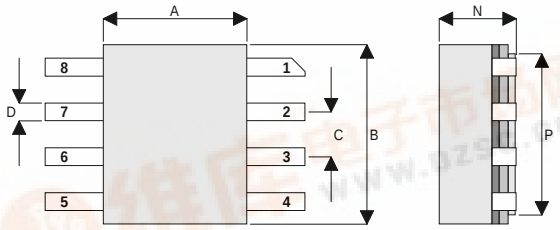
TetraFET

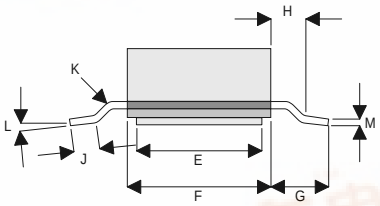
D2224UK

METAL GATE RF SILICON FET

MECHANICAL DATA

Dimensions in mm.





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	0.030	+0.010
		-0.00		-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 5W – 7.2V – 850MHz SINGLE ENDED

FEATURES

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

APPLICATIONS

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

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

P_D	Power Dissipation	29W
BV_{DSS}	Drain – Source Breakdown Voltage	40V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	8A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

SEME LAB

D2224UK

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
BV_{DSS}	Drain–Source Breakdown Voltage	V_{GS} = 0	I_D = 10mA	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			4	μA
$V_{GS(th)}$	Gate Threshold Voltage*	I_D = 10mA	V_{DS} = V_{GS}	0.5		7	V
g_{fs}	Forward Transconductance*	V_{DS} = 10V	I_D = 0.8A	0.72			S
G_{PS}	Common Source Power Gain	P_O = 5W		7			dB
η	Drain Efficiency	V_{DS} = 7.2V	I_{DQ} = 0.4A	50			%
VSWR	Load Mismatch Tolerance	f = 850MHz		20:1			—
C_{iss}	Input Capacitance	V_{DS} = 0V	V_{GS} = –5V f = 1MHz			48	pF
C_{oss}	Output Capacitance	V_{DS} = 12.5V	V_{GS} = 0 f = 1MHz			40	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 12.5V	V_{GS} = 0 f = 1MHz			4	pF

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

THERMAL DATA

$R_{THj–case}$	Thermal Resistance Junction – Case	Max. 6°C / W