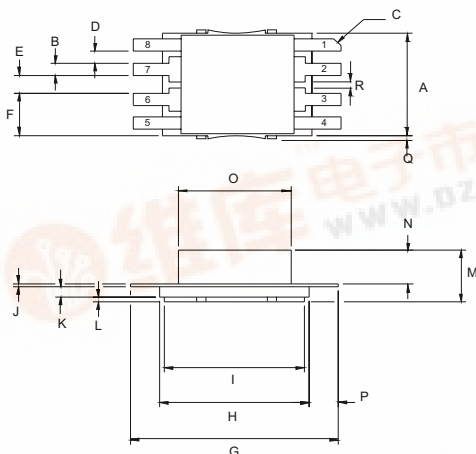


D2254UK

METAL GATE RF SILICON FET

MECHANICAL DATA



DBC4 Package

PIN 1 Source (Common) PIN 5 Source (Common)

PIN 2 Drain 1

PIN 6 Gate 2

PIN 3 Drain 2

PIN 7 Gate 1

PIN 4 Source (Common) PIN 8 Source (Common)

DIM	mm	Tol.	Inches	Tol.
A	6.47	0.08	.255	.003
B	0.76	0.08	.030	.003
C	45°	5°	45°	5°
D	0.76	0.08	.030	.003
E	1.14	0.08	.045	.003
F	2.67	0.08	.105	.003
G	11.73	0.13	.462	.005
H	8.43	0.08	.332	.003
I	7.92	0.08	.312	.003
J	0.20	0.02	.008	.001
K	0.64	0.02	.025	.001
L	0.30	0.02	.012	.001
M	3.25	0.08	.128	.003
N	2.11	0.08	.083	.003
O	6.35SQ	0.08	.250SQ	.003
P	1.65	0.51	.065	.020
Q	0.13	max	.005	max
R	0.25	0.07	0.010	.003

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 10W – 12.5V – 1GHz PUSH-PULL

FEATURES

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

APPLICATIONS

- VHF/UHF COMMUNICATIONS
from 1MHz to 1 GHz

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

P_D	Power Dissipation	29W
BV_{DSS}	Drain – Source Breakdown Voltage *	40V
BV_{GSS}	Gate – Source Breakdown Voltage *	$\pm 20V$
$I_{D(sat)}$	Drain Current *	4A
T_{stg}	Storage Temperature	-65 to $150^{\circ}C$
T_{jop}	Maximum Operating Junction Temperature	$200^{\circ}C$

* Per Side

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

Parameter		Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE						
BV_{DSS}	Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10\text{mA}$	40			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 12.5\text{V}$ $V_{GS} = 0$			2	mA
I_{GSS}	Gate Leakage Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$			2	μA
$V_{GS(th)}$	Gate Threshold Voltage*	$I_D = 10\text{mA}$ $V_{DS} = V_{GS}$	1		7	V
g_{fs}	Forward Transconductance*	$V_{DS} = 10\text{V}$ $I_D = 0.4\text{A}$	0.36			S
TOTAL DEVICE						
G_{PS}	Common Source Power Gain	$P_O = 10\text{W}$	10			dB
η	Drain Efficiency	$V_{DS} = 12.5\text{V}$ $I_{DQ} = 0.4\text{A}$	40			%
VSWR	Load Mismatch Tolerance	$f = 1\text{GHz}$	20:1			—
PER SIDE						
C_{iss}	Input Capacitance	$V_{DS} = 0$ $V_{GS} = -5\text{V}$ $f = 1\text{MHz}$			24	pF
C_{oss}	Output Capacitance	$V_{DS} = 12.5\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			20	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 12.5\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			2	pF

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

THERMAL DATA

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. 6.0 $^{\circ}\text{C} / \text{W}$
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