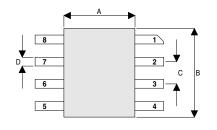
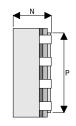


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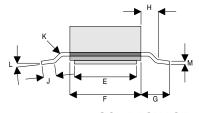
METAL GATE RF SILICON FET

MECHANICAL DATA





GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 5W - 12.5V - 1GHzSINGLE ENDED



SO8 PACKAGE

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

mm	Tol.	Inches	Tol.
4.06	±0.08	0.160	±0.003
5.08	±0.08	0.200	±0.003
1.27	±0.08	0.050	±0.003
0.51	±0.08	0.020	±0.003
3.56	±0.08	0.140	±0.003
4.06	±0.08	0.160	±0.003
1.65	±0.08	0.065	±0.003
0.76	+0.25	0.020	+0.010
0.76	-0.00	0.030	-0.000
0.51	Min.	0.020	Min.
1.02	Max.	0.040	Max.
45°	Max.	45°	Max.
0°	Min.	0°	Min.
7°	Max.	7°	Max.
0.20	±0.08	0.008	±0.003
2.18	Max.	0.086	Max.
4.57	±0.08	0.180	±0.003
	4.06 5.08 1.27 0.51 3.56 4.06 1.65 0.76 0.51 1.02 45° 0° 7° 0.20 2.18	4.06 ±0.08 5.08 ±0.08 1.27 ±0.08 0.51 ±0.08 3.56 ±0.08 4.06 ±0.08 1.65 ±0.08 0.76 +0.25 -0.00 0.51 Min. 1.02 45° Max. 45° Max. 0° Min. 7° Max. 0.20 ±0.08 2.18 Max.	4.06 ±0.08 0.160 5.08 ±0.08 0.200 1.27 ±0.08 0.050 0.51 ±0.08 0.020 3.56 ±0.08 0.140 4.06 ±0.08 0.160 1.65 ±0.08 0.065 -0.76 +0.25 -0.00 0.51 Min. 0.020 1.02 Max. 0.040 45° Max. 45° 0° Min. 0° 7° Max. 7° 0.20 ±0.08 0.008 2.18 Max. 0.086

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 2 GHz

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

$\overline{P_D}$	Power Dissipation	17.5W
BV_DSS	Drain – Source Breakdown Voltage	40V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
I _{D(sat)}	Drain Current	4A
T _{stg}	Storage Temperature	−65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

Semelab PIc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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Issue 1



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

Parameter Test Conditions		Min.	Тур.	Max.	Unit		
BV	Drain-Source	V _{GS} = 0	I _D = 10mA	40			V
BV _{DSS}	Breakdown Voltage	VGS - 0	ID – IOIIIX	40			v
1	Zero Gate Voltage	V 10 EV	5V V _{GS} = 0			2	mA
I _{DSS}	Drain Current	$V_{DS} = 12.5V$				2	IIIA
I _{GSS}	Gate Leakage Current	V _{GS} = 20V	V _{DS} = 0			1	μΑ
V _{GS(th)}	Gate Threshold Voltage*	I _D = 10mA	$V_{DS} = V_{GS}$	0.5		7	V
9 _{fs}	Forward Transconductance*	V _{DS} = 10V	I _D = 0.4A	0.36			S
G _{PS}	Common Source Power Gain	P _O = 5W		10			dB
η	Drain Efficiency	V _{DS} = 12.5V	$I_{DQ} = 0.2A$	40			%
VSWR	Load Mismatch Tolerance	f = 1GHz		20:1			_
C _{iss}	Input Capacitance	$V_{DS} = 0V \qquad V_{GS}$	S = -5V $f = 1MHz$			24	pF
C _{oss}	Output Capacitance	$V_{DS} = 12.5V V_{GS}$	S = 0 $f = 1MHz$			20	pF
C _{rss}	Reverse Transfer Capacitance	$V_{DS} = 12.5V V_{GS}$	S = 0 $f = 1MHz$			2	pF

^{*} Pulse Test: Pulse Duration = 300 μs , Duty Cycle \leq 2%

THERMAL DATA

R _{THj-case}	Thermal Resistance Junction – Case	Max. 6°C / W
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