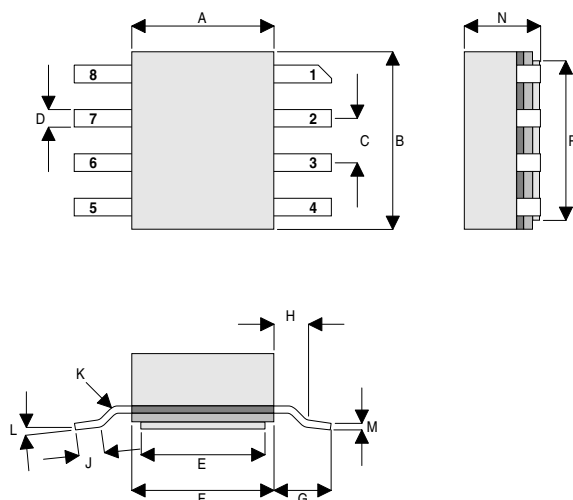


**MECHANICAL DATA****SO8 PACKAGE**

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  
 5W – 12.5V – 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 2 GHz

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

$P_D$	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 Plc 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.

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  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	$V_{DS} = 12.5V$ $V_{GS} = 0$			2	mA
$I_{GSS}$ Gate Leakage Current	$V_{GS} = 20V$ $V_{DS} = 0$			1	$\mu A$
$V_{GS(th)}$ Gate Threshold Voltage*	$I_D = 10mA$ $V_{DS} = V_{GS}$	0.5		7	V
$g_{fs}$ Forward Transconductance*	$V_{DS} = 10V$ $I_D = 0.4A$	0.36			S
$G_{PS}$ Common Source Power Gain	$P_O = 5W$	10			dB
$\eta$ Drain Efficiency	$V_{DS} = 12.5V$ $I_{DQ} = 0.2A$	40			%
VSWR Load Mismatch Tolerance	$f = 1GHz$	20:1			—
$C_{iss}$ Input Capacitance	$V_{DS} = 0V$ $V_{GS} = -5V$ $f = 1MHz$			24	pF
$C_{oss}$ Output Capacitance	$V_{DS} = 12.5V$ $V_{GS} = 0$ $f = 1MHz$			20	pF
$C_{rss}$ Reverse Transfer Capacitance	$V_{DS} = 12.5V$ $V_{GS} = 0$ $f = 1MHz$			2	pF

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

**THERMAL DATA**

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