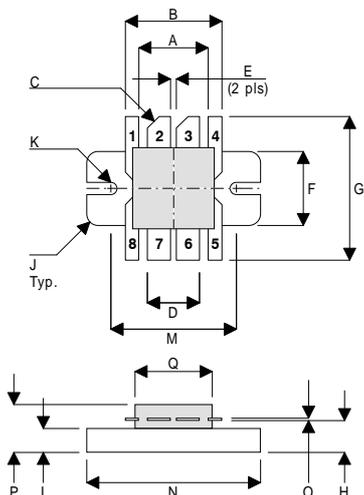


MECHANICAL DATA



DD

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	SOURCE (COMMON)
PIN 5	SOURCE (COMMON)	PIN 6	GATE 2
PIN 7	GATE 1	PIN 8	SOURCE (COMMON)

DIM	mm	Tol.	Inches	Tol.
A	9.14	0.13	0.360	0.005
B	12.70	0.13	0.500	0.005
C	45°	5°	45°	5°
D	6.86	0.13	0.270	0.005
E	0.76	0.13	0.030	0.005
F	9.78	0.13	0.385	0.005
G	19.05	0.25	0.750	0.010
H	4.19	0.13	0.165	0.005
I	3.17	0.13	0.125	0.005
J	1.52R	0.13	0.060R	0.005
K	1.65R	0.13	0.065R	0.005
M	16.51	0.13	0.650	0.005
N	22.86	0.13	0.900	0.005
O	0.13	0.02	0.005	0.001
P	6.35	0.64	0.250	0.025
Q	10.77	0.13	0.424	0.005

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
15W – 12.5V – 500MHz  
PUSH-PULL**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW  $C_{rss}$
- LOW NOISE
- HIGH GAIN

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	100W
$BV_{DSS}$	Drain – Source Breakdown Voltage *	40V
$BV_{GSS}$	Gate – Source Breakdown Voltage *	$\pm 20V$
$I_{D(sat)}$	Drain Current *	6A
$T_{stg}$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°C

\* Per Side

Semelab Ltd 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<sub>case</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
<b>PER SIDE</b>					
B <sub>V</sub> DSS Drain–Source Breakdown Voltage	V <sub>GS</sub> = 0      I <sub>D</sub> = 10mA	40			V
I <sub>D</sub> DSS Zero Gate Voltage Drain Current	V <sub>DS</sub> = 12.5V      V <sub>GS</sub> = 0			3	mA
I <sub>G</sub> DSS Gate Leakage Current	V <sub>GS</sub> = 20V      V <sub>DS</sub> = 0			3	μA
V <sub>GS(th)</sub> Gate Threshold Voltage *	I <sub>D</sub> = 10mA      V <sub>DS</sub> = V <sub>GS</sub>	0.5		7	V
g <sub>fs</sub> Forward Transconductance *	V <sub>DS</sub> = 10V      I <sub>D</sub> = 0.6A	0.54			S
<b>TOTAL DEVICE</b>					
G <sub>PS</sub> Common Source Power Gain	P <sub>O</sub> = 15W	10			dB
η Drain Efficiency	V <sub>DS</sub> = 12.5V      I <sub>DQ</sub> = 0.6A	40			%
VSWR Load Mismatch Tolerance	f = 500MHz	20:1			—
<b>PER SIDE</b>					
C <sub>iss</sub> Input Capacitance	V <sub>DS</sub> = 0      V <sub>GS</sub> = -5V      f = 1MHz			36	pF
C <sub>oss</sub> Output Capacitance	V <sub>DS</sub> = 12.5V      V <sub>GS</sub> = 0      f = 1MHz			30	pF
C <sub>rss</sub> Reverse Transfer Capacitance	V <sub>DS</sub> = 12.5V      V <sub>GS</sub> = 0      f = 1MHz			3	pF

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

## HAZARDOUS MATERIAL WARNING

The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

**THESE DEVICES MUST NEVER BE THROWN AWAY WITH GENERAL INDUSTRIAL OR DOMESTIC WASTE.**

## THERMAL DATA

R <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 1.75°C / W
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Document Number 8138

Issue 1

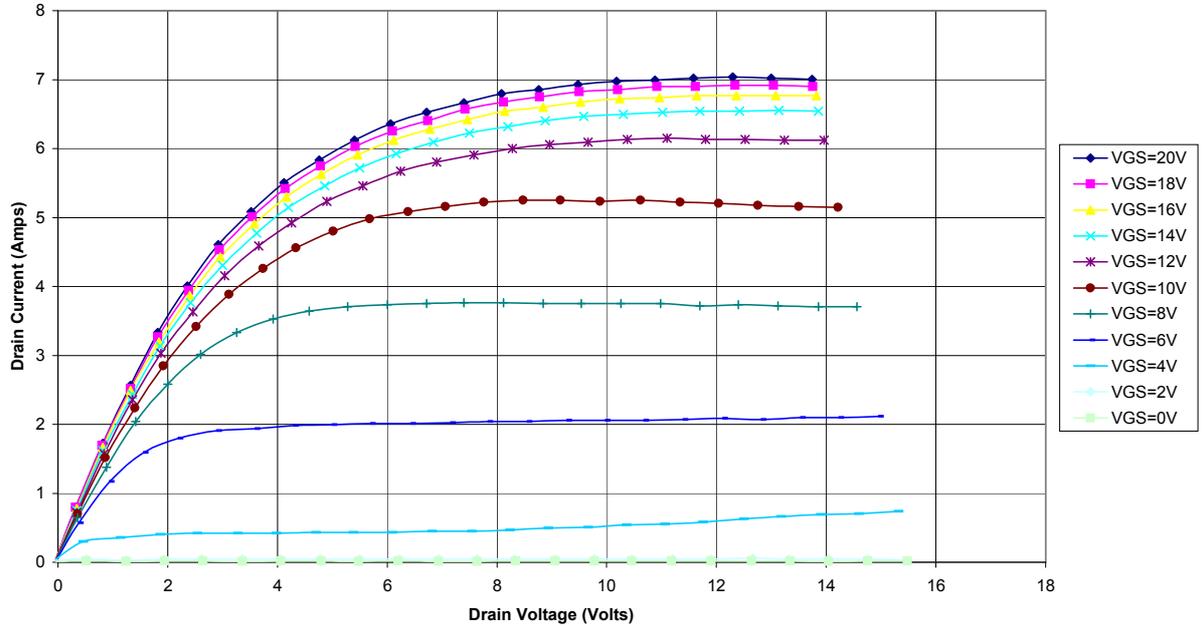


Figure 1 – Typical IV Characteristics.

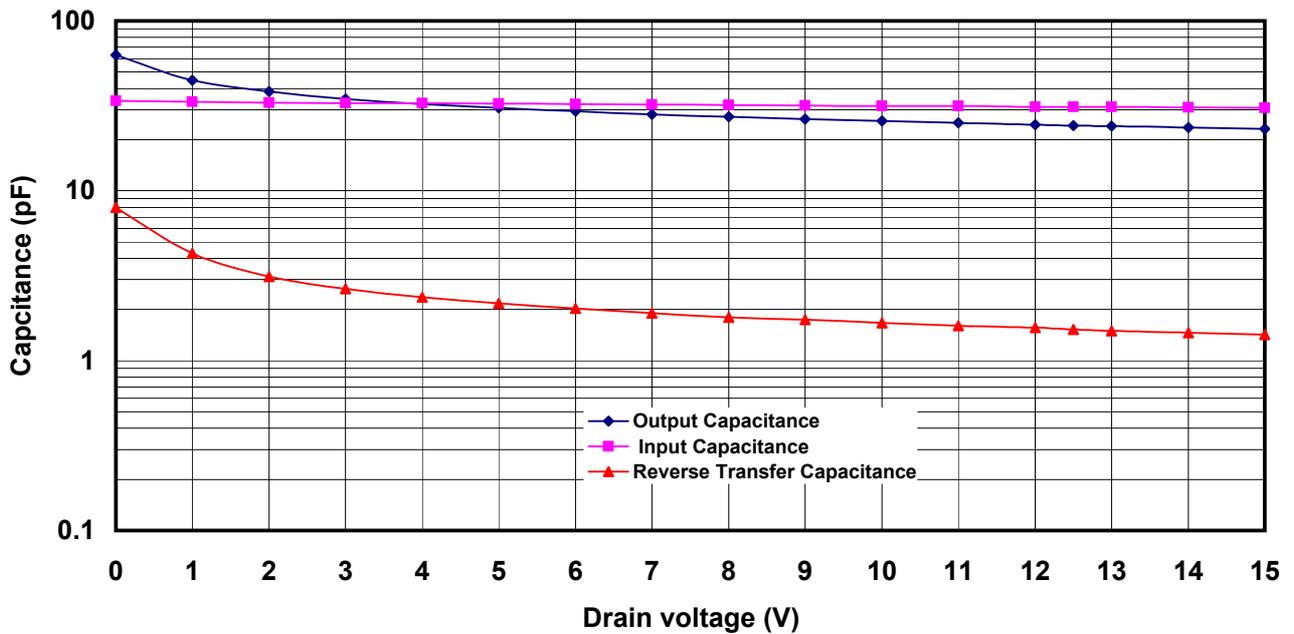


Figure 2 – Typical CV Characteristics.

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