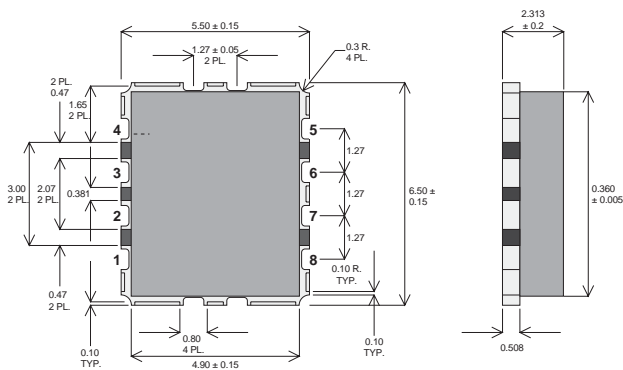


**MECHANICAL DATA**

Dimensions in mm.

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
10W – 28V – 500MHz  
SINGLE ENDED**



**F-0127 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

**FEATURES**

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- VERY LOW  $C_{rss}$
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 13 dB MINIMUM

Ceramic Material: Alumina.

**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	30W
$BV_{DSS}$	Drain – Source Breakdown Voltage	70V
$BV_{GSS}$	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	5A
$T_{stg}$	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<sub>case</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
B <sub>V</sub> DSS Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0      I <sub>D</sub> = 100mA	70			V
I <sub>DSS</sub> Zero Gate Voltage Drain Current	V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0			1	mA
I <sub>GSS</sub> Gate Leakage Current	V <sub>GS</sub> = 20V      V <sub>DS</sub> = 0			1	μA
V <sub>GS(th)</sub> Gate Threshold Voltage*	I <sub>D</sub> = 10mA      V <sub>DS</sub> = V <sub>GS</sub>	1		7	V
g <sub>fs</sub> Forward Transconductance*	V <sub>DS</sub> = 10V      I <sub>D</sub> = 1A	0.8			S
G <sub>PS</sub> Common Source Power Gain	P <sub>O</sub> = 10W	13			dB
η Drain Efficiency	V <sub>DS</sub> = 28V      I <sub>DQ</sub> = 0.1A	50			%
VSWR Load Mismatch Tolerance	f = 500MHz	20:1			—
C <sub>iss</sub> Input Capacitance	V <sub>DS</sub> = 0V      V <sub>GS</sub> = -5V      f = 1MHz			60	pF
C <sub>oss</sub> Output Capacitance	V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0      f = 1MHz			30	pF
C <sub>rss</sub> Reverse Transfer Capacitance	V <sub>DS</sub> = 28V      V <sub>GS</sub> = 0      f = 1MHz			2.5	pF

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

## THERMAL DATA

R <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 6°C / W
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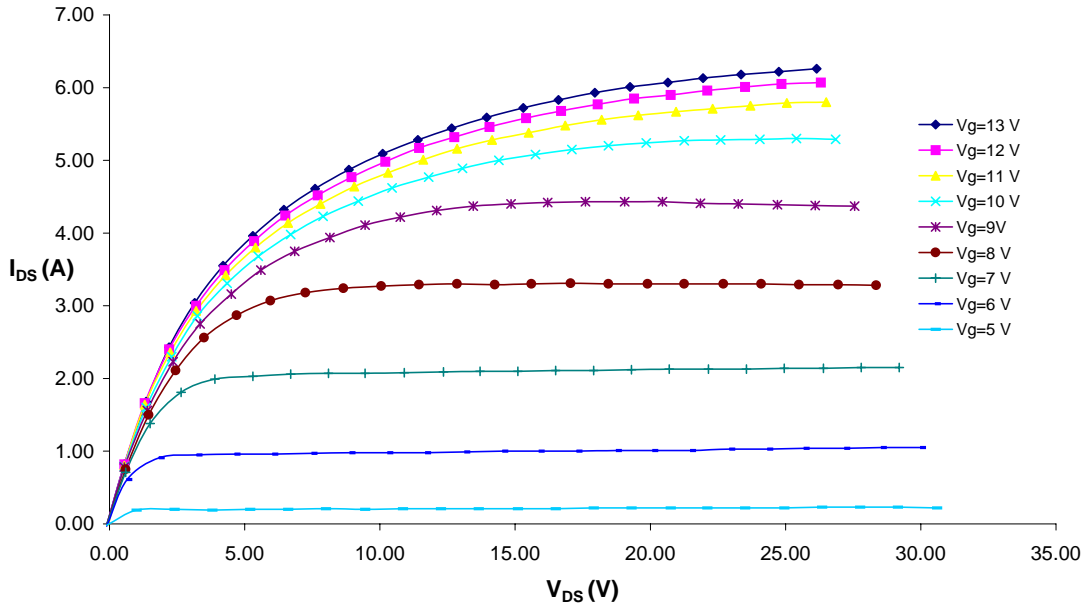


Figure 1 – Typical IV Characteristics.

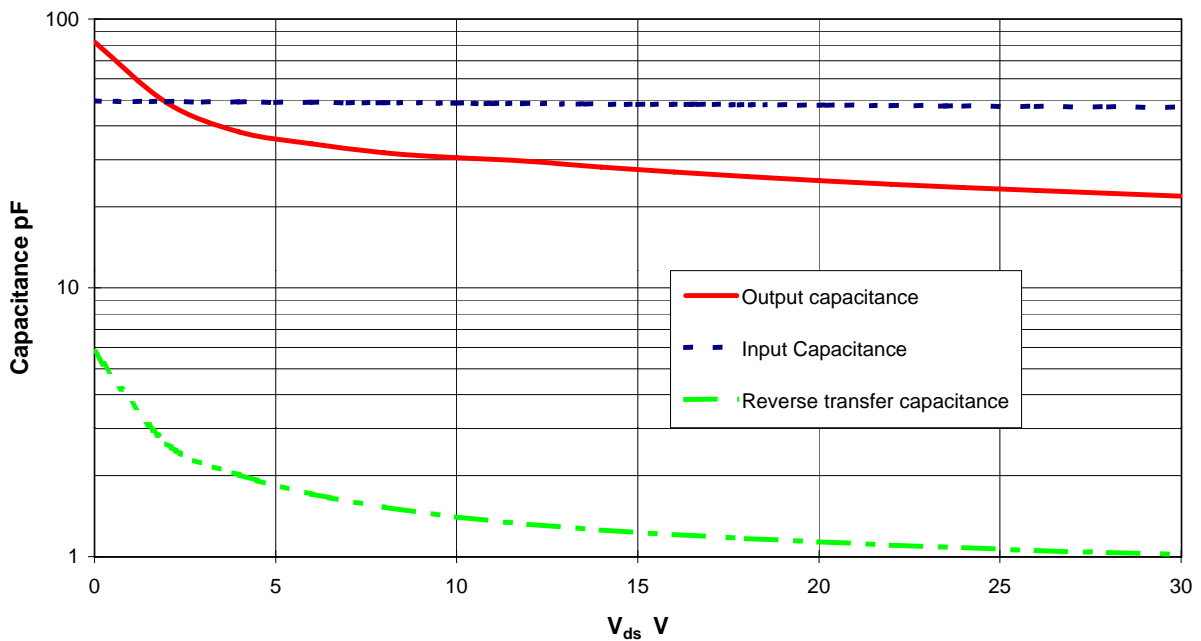


Figure 2 – Typical CV Characteristics.

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