

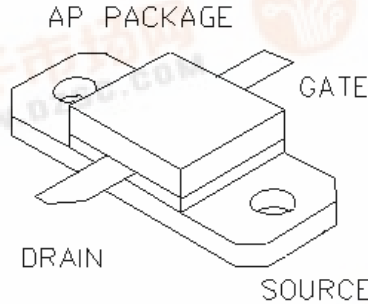


**F2021**

**General Description**

Silicon VDMOS and LDMOS transistors designed specifically for broadband RF applications. Suitable for Military Radios, Cellular and Paging Amplifier Base Stations, Broadcast FM/AM, MRI, Laser Driver and others.

"Polyfet"<sup>TM</sup> process features gold metal for greatly extended lifetime. Low output capacitance and high  $F_t$  enhance broadband performance



**PATENTED GOLD METALIZED SILICON GATE ENHANCEMENT MODE RF POWER VDMOS TRANSISTOR**

**7.5 Watts Single Ended**

**Package Style AP**

**HIGH EFFICIENCY, LINEAR, HIGH GAIN, LOW NOISE**

**ABSOLUTE MAXIMUM RATINGS (TC = 25 °C)**

Total Device Dissipation	Junction to Case Thermal Resistance	Maximum Junction Temperature	Storage Temperature	DC Drain Current	Drain to Gate Voltage	Drain to Source Voltage	Gate to Source Voltage
40 Watts	5 °C/W	200 °C	-65 °C to 150 °C	2.4 A	70 V	70V	30V

**RF CHARACTERISTICS ( 7.5WATTS OUTPUT )**

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	10			dB	$I_{dq} = 0.6 A, V_{ds} = 28.0 V, F = 1000 MHz$
$\eta$	Drain Efficiency		45		%	$I_{dq} = 0.6 A, V_{ds} = 28.0 V, F = 1000 MHz$
VSWR	Load Mismatch Toleranc			20:1	Relative	$I_{dq} = 0.6 A, V_{ds} = 28.0 V, F = 1000 MHz$

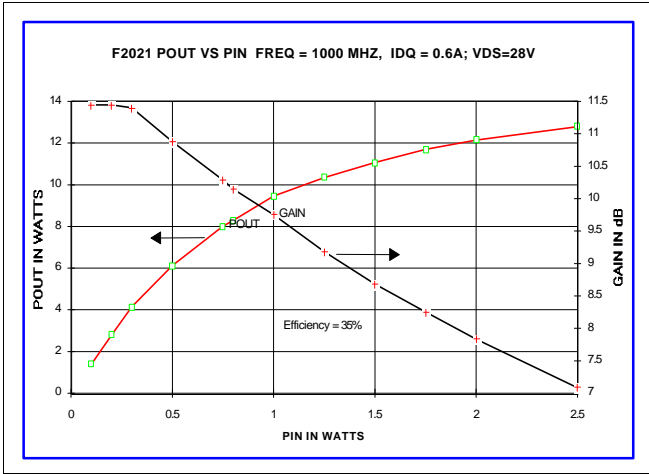
**ELECTRICAL CHARACTERISTICS (EACH SIDE)**

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltag	65			V	$I_{ds} = 0.03 A, V_{gs} = 0V$
$I_{dss}$	Zero Bias Drain Curren			0.6	mA	$V_{ds} = 28.0 V, V_{gs} = 0V$
$I_{gss}$	Gate Leakage Curren			1	uA	$V_{ds} = 0 V, V_{gs} = 30V$
Vgs	Gate Bias for Drain Curren	1		7	V	$I_{ds} = 0.06 A, V_{gs} = V_{ds}$
gM	Forward Transconductanc		0.6		Mho	$V_{ds} = 10V, V_{gs} = 5V$
Rdson	Saturation Resistanc		1.4		Ohm	$V_{gs} = 20V, I_{ds} = 3A$
$I_{dsat}$	Saturation Curren		3.6		Amp	$V_{gs} = 20V, V_{ds} = 10V$
Ciss	Common Source Input Capacitanc		27		pF	$V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$
Crss	Common Source Feedback Capacitanc		3		pF	$V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$
Coss	Common Source Output Capacitanc		18		pF	$V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$

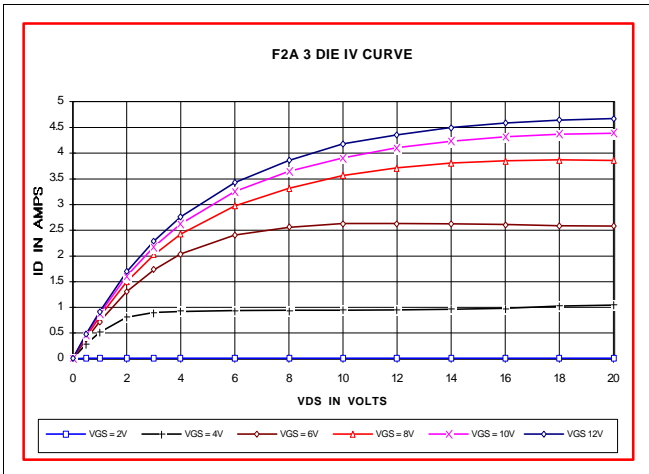


# F2021

POUT VS PIN GRAPH

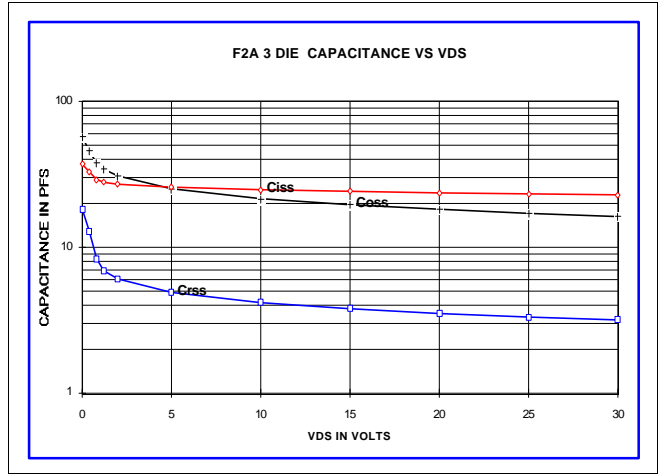


IV CURVE

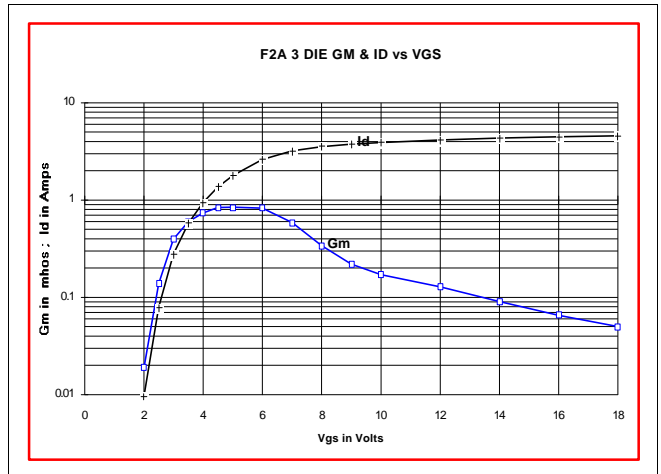


ID AND GM VS VGS

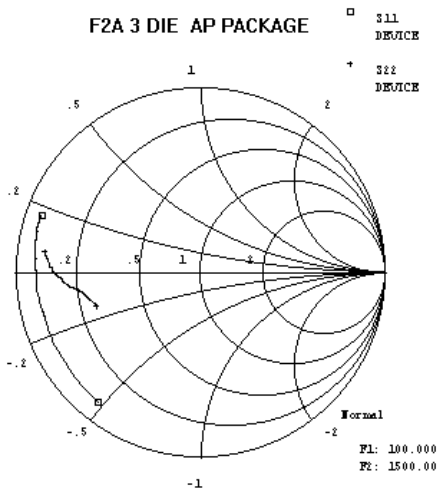
CAPACITANCE VS VOLTAGE



ID AND GM VS VGS



S11 AND S22 SMITH CHART



PACKAGE DIMENSIONS IN INCHES

