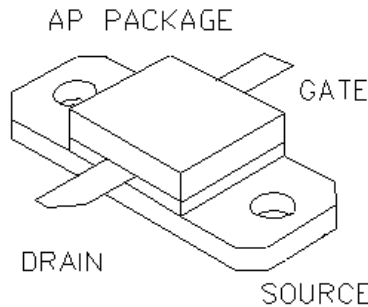




**General Description**

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**

**0.5 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
10 Watts	13 °C/W	200 °C	-65 °C to 150 °C	0.4 A	70 V	70V	30V

**RF CHARACTERISTICS ( 0.5WATTS OUTPUT )**

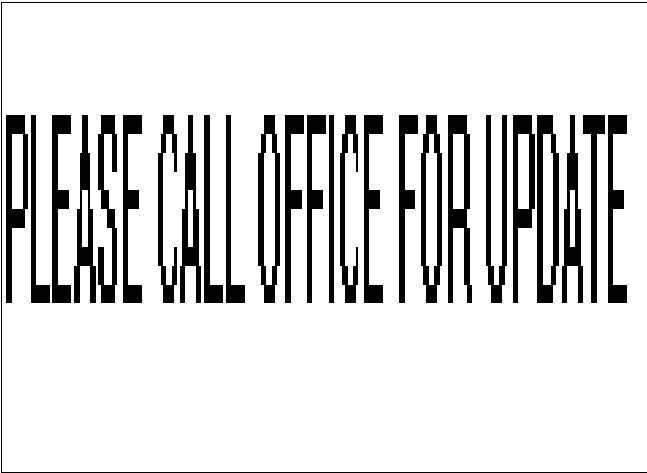
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	8			dB	$I_{dq} = 0.1 \text{ A}$ , $V_{ds} = 28.0 \text{ V}$ , $F = 2000 \text{ MHz}$
$\eta$	Drain Efficiency		35		%	$I_{dq} = 0.1 \text{ A}$ , $V_{ds} = 28.0 \text{ V}$ , $F = 2000 \text{ MHz}$
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.1 \text{ A}$ , $V_{ds} = 28.0 \text{ V}$ , $F = 2000 \text{ MHz}$

**ELECTRICAL CHARACTERISTICS (EACH SIDE)**

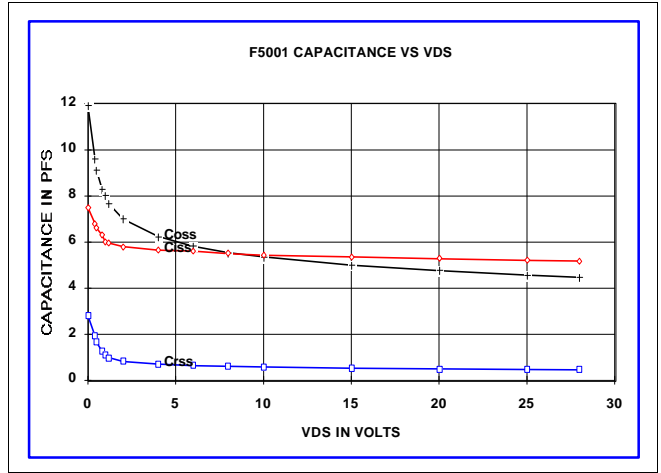
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	65			V	$I_{ds} = 0.01 \text{ A}$ , $V_{gs} = 0 \text{ V}$
Idss	Zero Bias Drain Current			0.2	mA	$V_{ds} = 28.0 \text{ V}$ , $V_{gs} = 0 \text{ V}$
Igss	Gate Leakage Current			1	uA	$V_{ds} = 0 \text{ V}$ , $V_{gs} = 30 \text{ V}$
Vgs	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.02 \text{ A}$ , $V_{gs} = V_{ds}$
gM	Forward Transconductance		0.1		Mho	$V_{ds} = 10 \text{ V}$ , $V_{gs} = 5 \text{ V}$
Rdson	Saturation Resistance		4.5		Ohm	$V_{gs} = 20 \text{ V}$ , $I_{ds} = 1 \text{ A}$
Idsat	Saturation Current		0.6		Amp	$V_{gs} = 20 \text{ V}$ , $V_{ds} = 10 \text{ V}$
Ciss	Common Source Input Capacitance		4		pF	$V_{ds} = 28.0 \text{ V}$ , $V_{gs} = 0 \text{ V}$ , $F = 1 \text{ MHz}$
Crss	Common Source Feedback Capacitance		0.4		pF	$V_{ds} = 28.0 \text{ V}$ , $V_{gs} = 0 \text{ V}$ , $F = 1 \text{ MHz}$
Coss	Common Source Output Capacitance		3		pF	$V_{ds} = 28.0 \text{ V}$ , $V_{gs} = 0 \text{ V}$ , $F = 1 \text{ MHz}$

# F5001

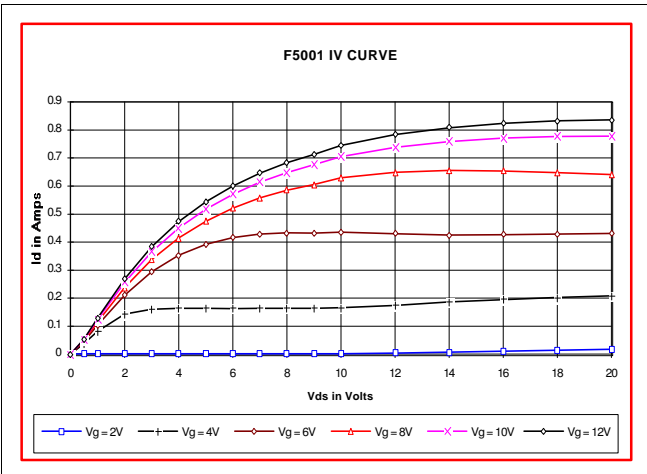
POUT VS PIN GRAPH



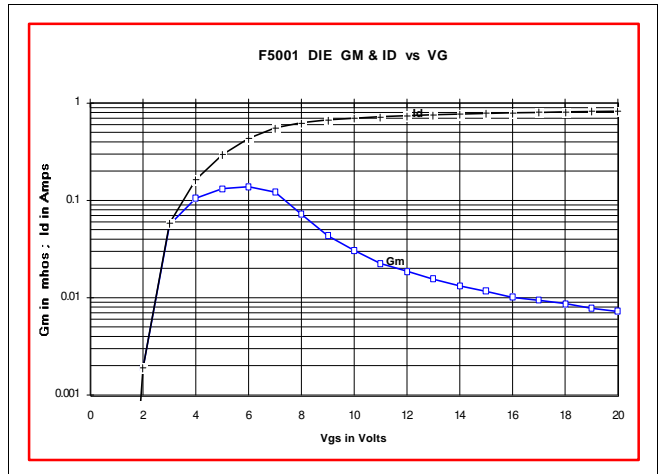
CAPACITANCE VS VOLTAGE



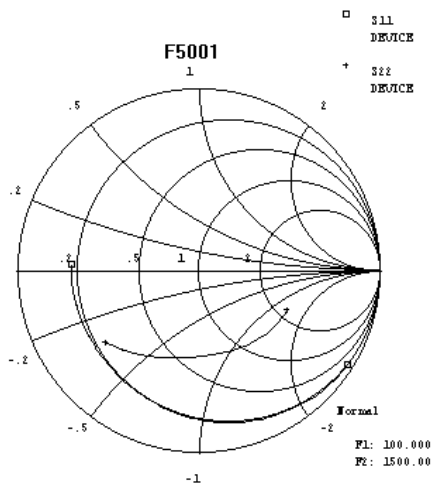
IV CURVE



ID AND GM VS VGS



S11 AND S22 SMITH CHART



PACKAGE DIMENSIONS IN INCHES

