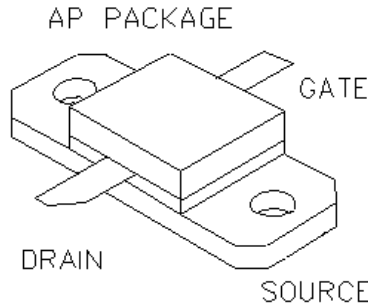




General Description

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"TM 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

10Watts 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
30 Watts	6 °C/W	200 °C	-65 °C to 150 °C	1.6 A	70 V	70V	30V

RF CHARACTERISTICS (10WATTS OUTPUT)

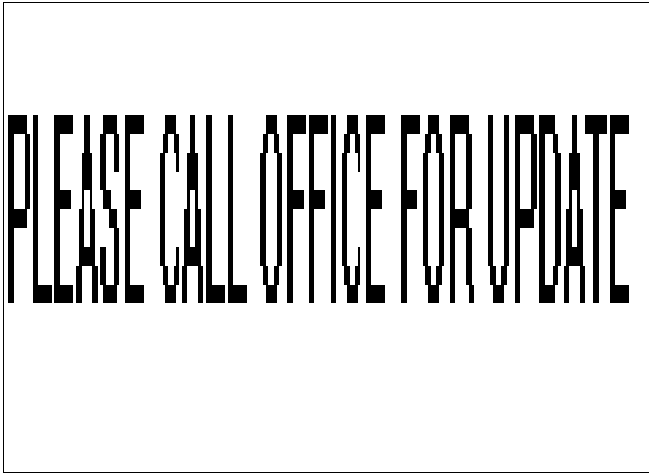
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	12			dB	$I_{dq} = 0.4 \text{ A}$, $V_{ds} = 28.0 \text{ V}$, $F = 500 \text{ MHz}$
η	Drain Efficiency		55		%	$I_{dq} = 0.4 \text{ A}$, $V_{ds} = 28.0 \text{ V}$, $F = 500 \text{ MHz}$
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.4 \text{ A}$, $V_{ds} = 28.0 \text{ V}$, $F = 500 \text{ MHz}$

ELECTRICAL CHARACTERISTICS (EACH SIDE)

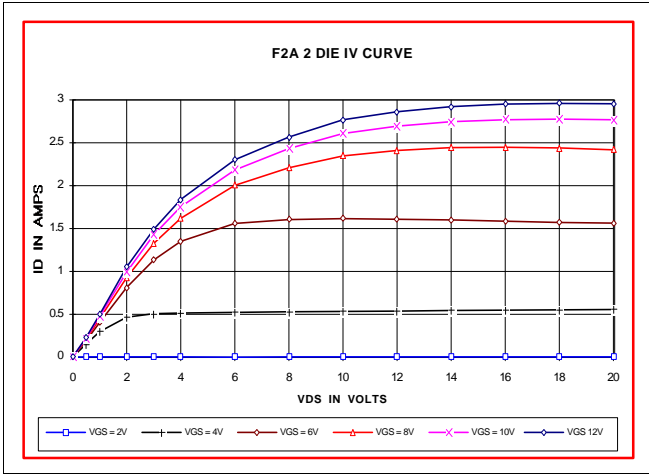
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	65			V	$I_{ds} = 0.02 \text{ A}$, $V_{gs} = 0 \text{ V}$
I_{dss}	Zero Bias Drain Current			0.4	mA	$V_{ds} = 28.0 \text{ V}$, $V_{gs} = 0 \text{ V}$
I_{gss}	Gate Leakage Current			1	uA	$V_{ds} = 0 \text{ V}$, $V_{gs} = 30 \text{ V}$
V_{gs}	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.04 \text{ A}$, $V_{gs} = V_{ds}$
gM	Forward Transconductance		0.4		Mho	$V_{ds} = 10 \text{ V}$, $V_{gs} = 5 \text{ V}$
Rdson	Saturation Resistance		2.1		Ohm	$V_{gs} = 20 \text{ V}$, $I_{ds} = 2 \text{ A}$
I_{dsat}	Saturation Current		2.4		Amp	$V_{gs} = 20 \text{ V}$, $V_{ds} = 10 \text{ V}$
Ciss	Common Source Input Capacitance		18		pF	$V_{ds} = 28.0 \text{ V}$, $V_{gs} = 0 \text{ V}$, $F = 1 \text{ MHz}$
Crss	Common Source Feedback Capacitance		2		pF	$V_{ds} = 28.0 \text{ V}$, $V_{gs} = 0 \text{ V}$, $F = 1 \text{ MHz}$
Coss	Common Source Output Capacitance		12		pF	$V_{ds} = 28.0 \text{ V}$, $V_{gs} = 0 \text{ V}$, $F = 1 \text{ MHz}$

F1510

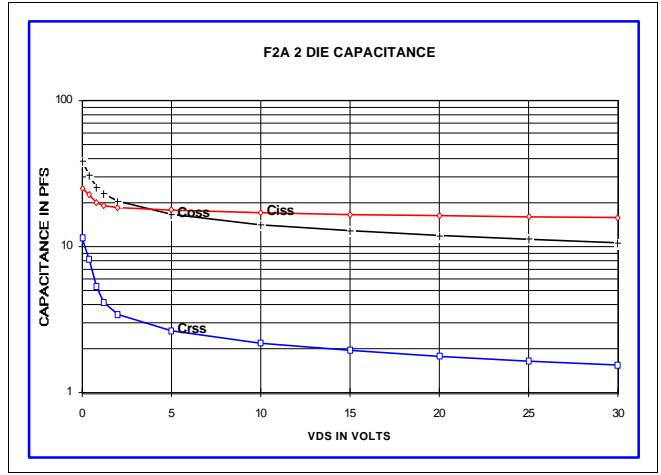
POUT VS PIN GRAPH



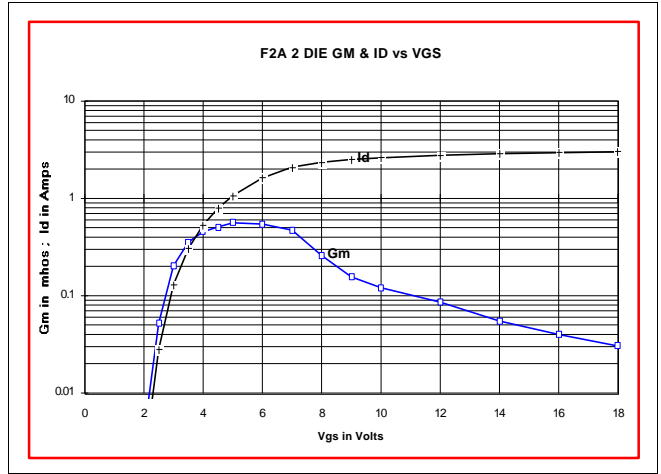
IV CURVE



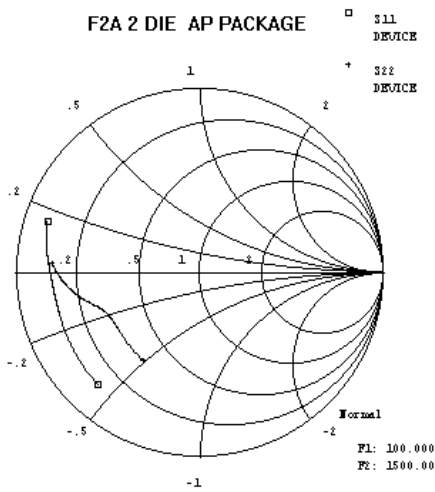
CAPACITANCE VS VOLTAGE



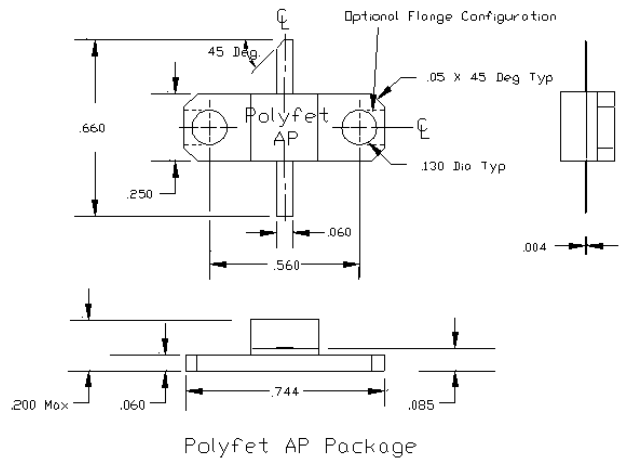
ID AND GM VS VGS



S11 AND S22 SMITH CHART



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