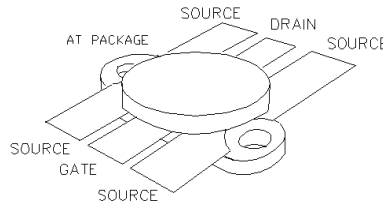




General Description

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**

120Watts Single Ended

Package Style AT

**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
250 Watts	0.8 °C/W	200 °C	-65 °C to 150 °C	10 A	150 V	150V	30V

RF CHARACTERISTICS (120WATTS OUTPUT)

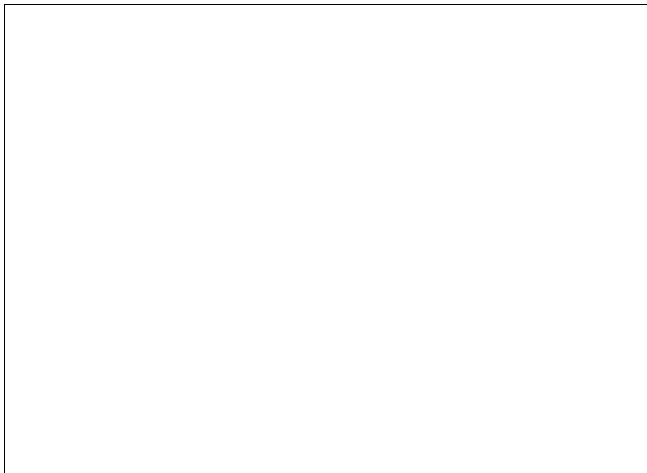
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	13			dB	$I_{dq} = 0.4 \text{ A}$, $V_{ds} = 50.0 \text{ V}$, $F = 175 \text{ MHz}$
η	Drain Efficiency		65		%	$I_{dq} = 0.4 \text{ A}$, $V_{ds} = 50.0 \text{ V}$, $F = 175 \text{ MHz}$
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.4 \text{ A}$, $V_{ds} = 50.0 \text{ V}$, $F = 175 \text{ MHz}$

ELECTRICAL CHARACTERISTICS (EACH SIDE)

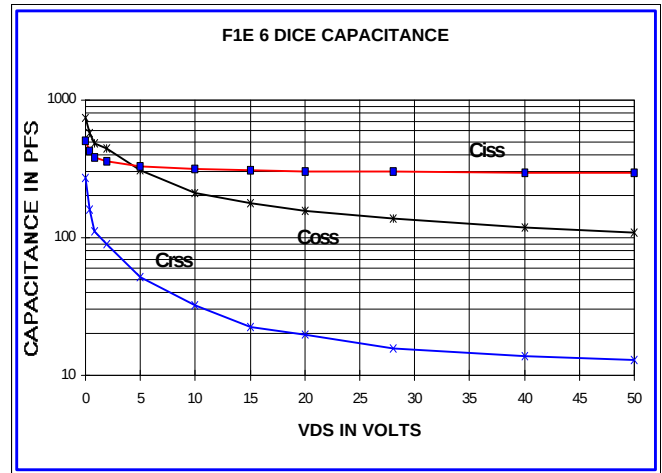
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	125			V	$I_{ds} = 0.1 \text{ A}$, $V_{gs} = 0 \text{ V}$
Idss	Zero Bias Drain Current			12	mA	$V_{ds} = 50.0 \text{ V}$, $V_{gs} = 0 \text{ V}$
Igss	Gate Leakage Current			1	uA	$V_{ds} = 0 \text{ V}$, $V_{gs} = 30 \text{ V}$
Vgs	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.15 \text{ A}$, $V_{gs} = V_{ds}$
gm	Forward Transconductance		4.8		Mho	$V_{ds} = 10 \text{ V}$, $V_{gs} = 5 \text{ V}$
Rdson	Saturation Resistance		0.25		Ohm	$V_{gs} = 20 \text{ V}$, $I_{ds} = 10 \text{ A}$
Idsat	Saturation Current		28.8		Amp	$V_{gs} = 20 \text{ V}$, $V_{ds} = 10 \text{ V}$
Ciss	Common Source Input Capacitance		270		pF	$V_{ds} = 50.0 \text{ V}$, $V_{gs} = 0 \text{ V}$, $F = 1 \text{ MHz}$
Crss	Common Source Feedback Capacitance		13.2		pF	$V_{ds} = 50.0 \text{ V}$, $V_{gs} = 0 \text{ V}$, $F = 1 \text{ MHz}$
Coss	Common Source Output Capacitance		120		pF	$V_{ds} = 50.0 \text{ V}$, $V_{gs} = 0 \text{ V}$, $F = 1 \text{ MHz}$

F1410

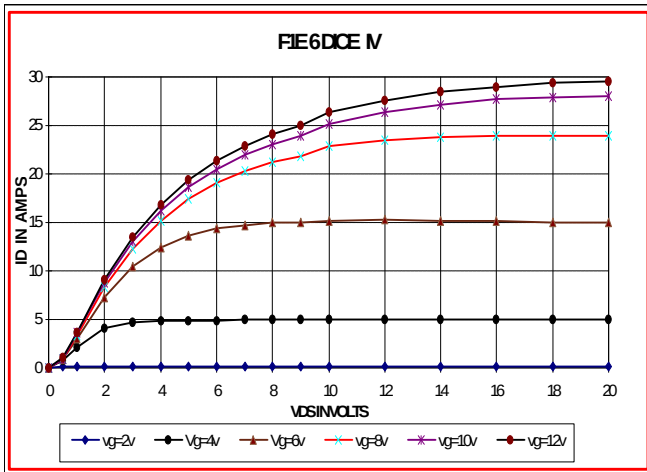
POUT VS PIN GRAPH



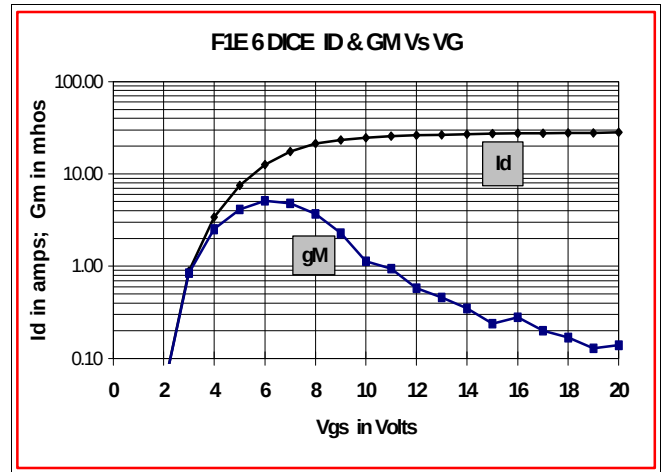
CAPACITANCE VS VOLTAGE



IV CURVE

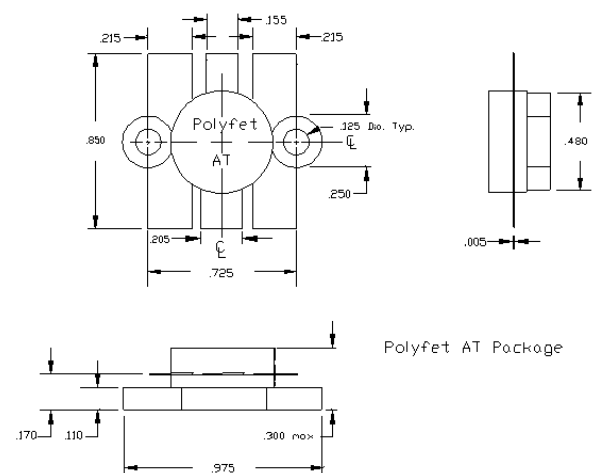


ID AND GM VS VGS



S11 AND S22 SMITH CHART

PACKAGE DIMENSIONS IN INCHES



POLYFET RF DEVICES

REVISION 8/1/97