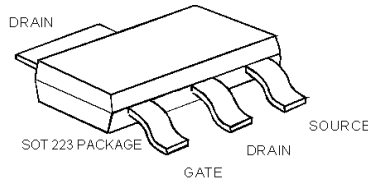




General Description

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 low feedback and output capacitances resulting in high F_t transistors with high input impedance and high efficiency.



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

**1.0 Watts Single Ended
Package Style SOT 223**

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

ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ C$)

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
2 Watts	26.00 $^\circ C/W$	200 $^\circ C$	-65 $^\circ C$ to 150 $^\circ C$	0.8 A	50V	50V	30 V

RF CHARACTERISTICS (1.0 WATTS OUTPUT)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	10			dB	$I_{dq} = 0.20$ A, $V_{ds} = 12.5$ V, $F = 1,000$ MHz
η	Drain Efficiency		50		%	$I_{dq} = 0.20$ A, $V_{ds} = 12.5$ V, $F = 1,000$ MHz
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.20$ A, $V_{ds} = 12.5$ V, $F = 1,000$ MHz

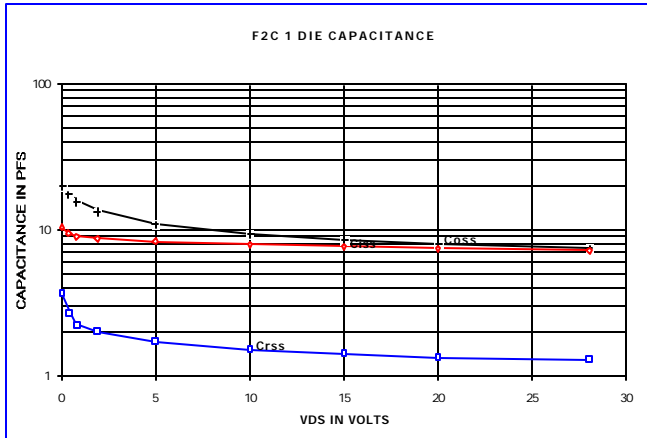
ELECTRICAL CHARACTERISTICS (EACH SIDE)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	40			V	$I_{ds} = 0.01$ A, $V_{gs} = 0V$
I_{dss}	Zero Bias Drain Current			0.2	mA	$V_{ds} = 12.5$ V, $V_{gs} = 0V$
I_{gss}	Gate Leakage Current			1	μA	$V_{ds} = 0V$ $V_{gs} = 30V$
V_{gs}	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.02$ A, $V_{gs} = V_{ds}$
gM	Forward Transconductance		0.2		Mho	$V_{ds} = 10V$, $V_{gs} = 5V$
Rdson	Saturation Resistance		2.00		Ohm	$V_{gs} = 20V$, $I_{ds} = 1.60$ A
I_{dsat}	Saturation Current		2.30		Amp	$V_{gs} = 20V$, $V_{ds} = 10V$
Ciss	Common Source Input Capacitance		7.5		pF	$V_{ds} = 12.5$ $V_{gs} = 0V$, $F = 1$ MHz
Crss	Common Source Feedback Capacitance		1.2		pF	$V_{ds} = 12.5$ $V_{gs} = 0V$, $F = 1$ MHz
Coss	Common Source Output Capacitance		8.0		pF	$V_{ds} = 12.5$ $V_{gs} = 0V$, $F = 1$ MHz

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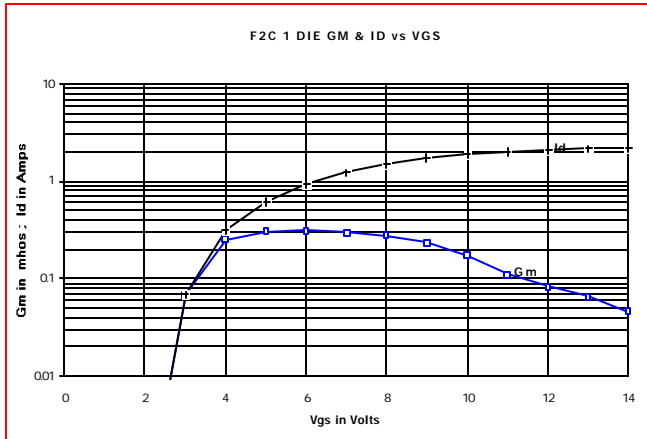
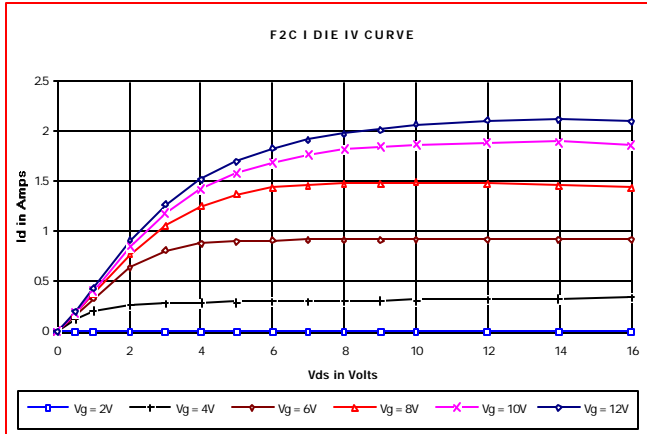
POUT VS PIN GRAPH

CAPACITANCE VS VOLTAGE



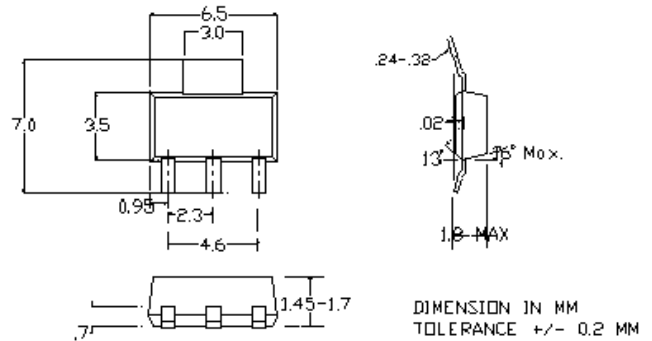
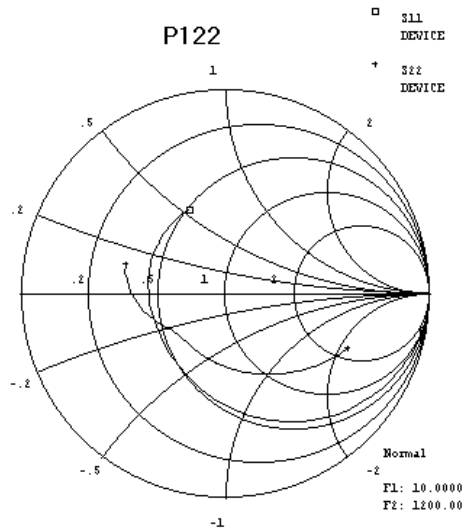
IV CURVE

ID & GM VS VGS



S11 & S22 SMITH CHART

PACKAGE DIMENSIONS IN INCHES



Tolerance .XX +/- 0.01 .XXX +/- .005 inches

POLYFET RF DEVICES

REVISION 06/19/2000

1110 Avenida Acaso, Camarillo, Ca 93012 Tel:(805) 484-4210 FAX: (805) 484-3393 EMAIL:Sales@polyfet.com URL:www.polyfet.com