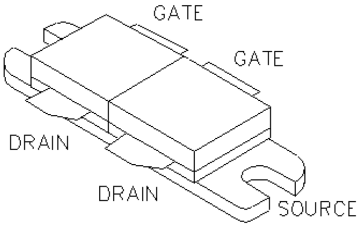
polyfet rf devices

F1430

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 Ft enhance broadband performance



PATENTED GOLD METALIZED
SILICON GATE ENHANCEMENT MODE
RF POWER VDMOS TRANSISTOR

300 Watts Gemini

Package Style AR

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
500 Watts	0.35 °C/W	200 °C	-65 °C to 150 °C	24 A	150 V	150 V	30V

RF CHARACTERISTICS (300 WATTS OUTPUT)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gai	13			dB	Idq = 1.2 A, Vds = 50.0 V, F = 150 MHz
η	Drain Efficienc		65		%	Idq = 1.2 A, Vds = 50.0 V, F = 150 MHz
VSWR	Load Mismatch Toleranc			20:1	Relative	Idq = 1.2 A, Vds = 50.0 V, F = 150 MHz

ELECTRICAL CHARACTERISTICS (EACH SIDE)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltag	125			V	Ids = 0.1 A, Vgs = 0V
Idss	Zero Bias Drain Curren			16	mA	Vds = 50.0 V, Vgs = 0V
Igss	Gate Leakage Curren			1	uA	Vds = 0 V, Vgs = 30V
Vgs	Gate Bias for Drain Curren	1		7	V	Ids = 0.15 A, Vgs = Vds
gM	Forward Transconductanc		6.4		Mho	Vds = 10V, Vgs = 5V
Rdson	Saturation Resistanc		0.18		Ohm	Vgs = 20V, Ids = 16 A
Idsat	Saturation Curren		38.4		Amp	Vgs = 20V, Vds = 10V
Ciss	Common Source Input Capacitanc		360		pF	Vds = 50.0 V. Vgs = 0V. F = 1 MHz
Crss	Common Source Feedback Capacitanc		17.6		pF	Vds = 50.0 V. Vgs = 0V. F = 1 MHz
Coss	Common Source Output Capacitanc		160		pF	Vds = 50.0 V. Vgs = 0V. F = 1 MHz

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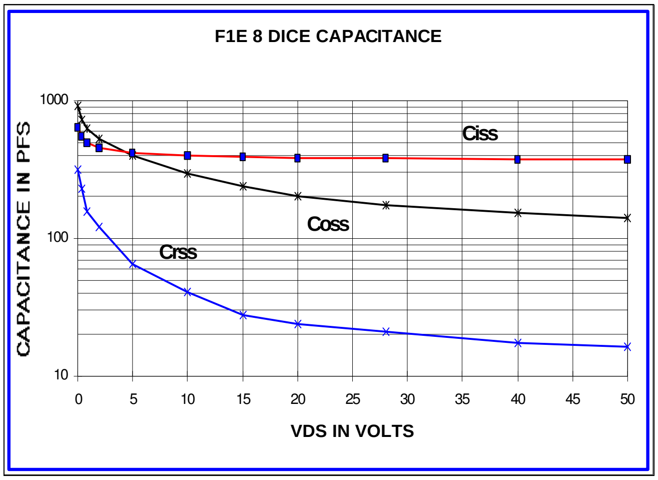
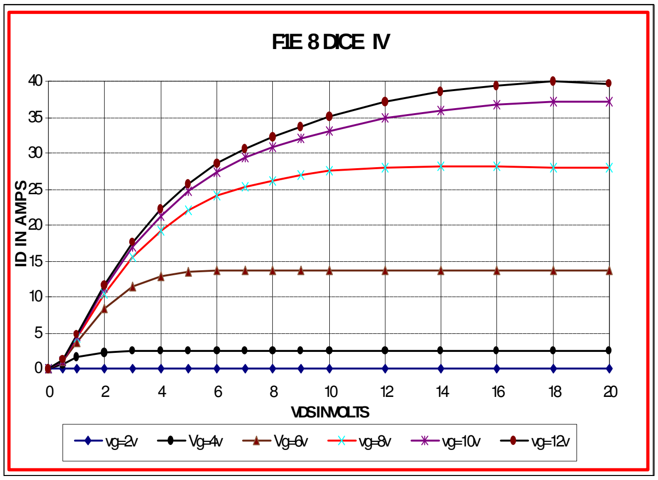
POUT VS PIN GRAPH

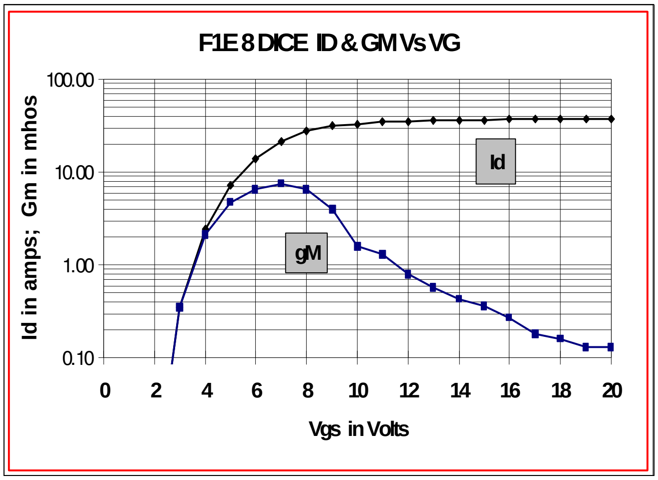
CAPACITANCE VS VOLTAGE



IV CURVE

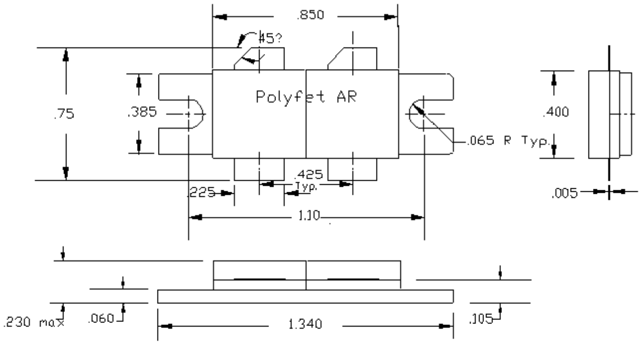


ID AND GM VS VGS



S11 AND S22 SMITH CHART

PACKAGE DIMENSIONS IN INCHES



Polyfet AR Package

POLYFET RF DEVICES REVISION 1/12/98

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