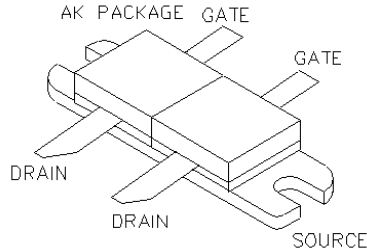




General Description

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

80Watts Gemini

Package Style AK

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
170Watts	0.95 °C/W	200 °C	-65°C to 150°C	8 A	70 V	70V	30V

RF CHARACTERISTICS (80WATTS OUTPUT)

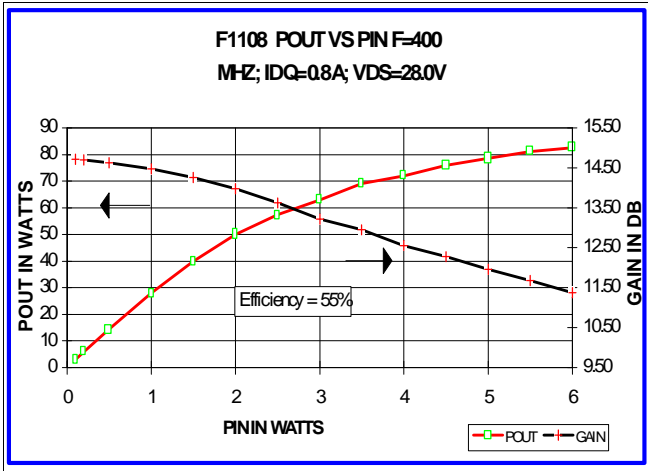
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	11			dB	$I_{dq} = 0.8 A, V_{ds} = 28.0V, F = 400 MHz$
η	Drain Efficiency		55		%	$I_{dq} = 0.8 A, V_{ds} = 28.0V, F = 400 MHz$
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.8 A, V_{ds} = 28.0V, F = 400 MHz$

ELECTRICAL CHARACTERISTICS (EACH SIDE)

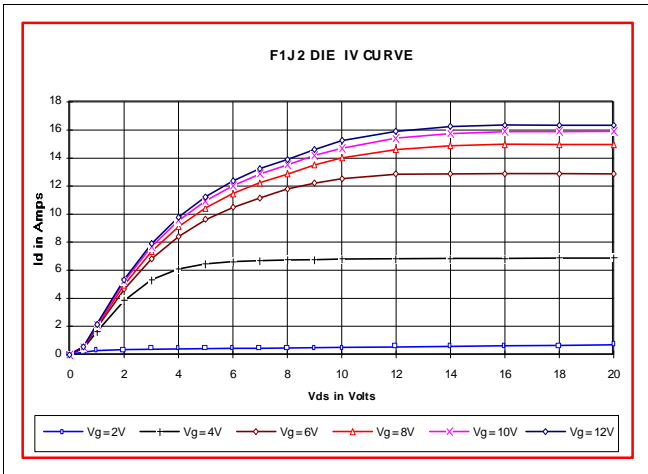
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	65			V	$I_{ds} = 0.1 A, V_{gs} = 0V$
Idss	Zero Bias Drain Current			2	mA	$V_{ds} = 28.0V, V_{gs} = 0V$
Igss	Gate Leakage Current			1	uA	$V_{ds} = 0 V, V_{gs} = 30V$
Vgs	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.2 A, V_{gs} = V_{ds}$
gM	Forward Transconductance		2		Mho	$V_{ds} = 10V, V_{gs} = 5V$
Rdson	Saturation Resistance		0.7		Ohm	$V_{gs} = 20V, I_{ds} = 8A$
Idsat	Saturation Current		12		Amp	$V_{gs} = 20V, V_{ds} = 10V$
Ciss	Common Source Input Capacitance		80		pF	$V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$
Crss	Common Source Feedback Capacitance		10		pF	$V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$
Coss	Common Source Output Capacitance		60		pF	$V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$

F1108

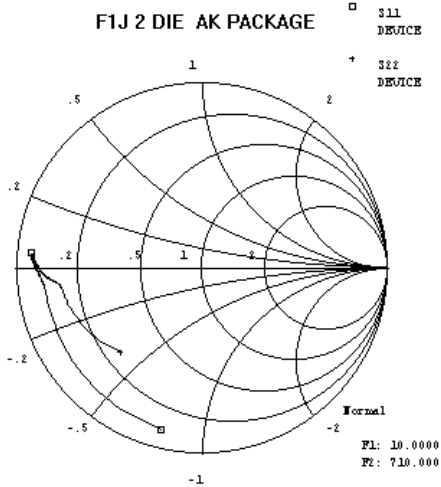
POUT VS PIN GRAPH



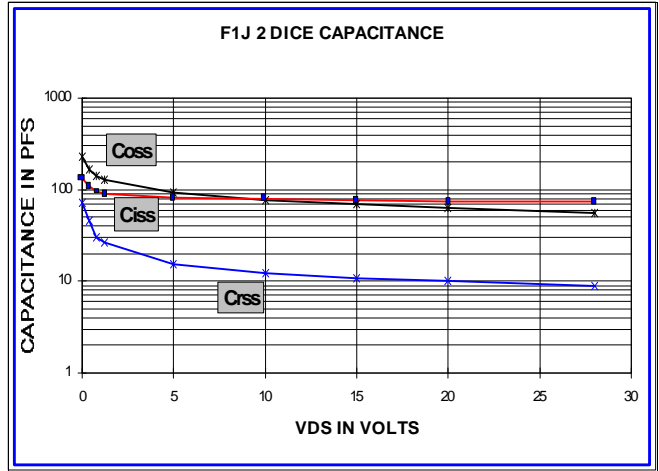
IV CURVE



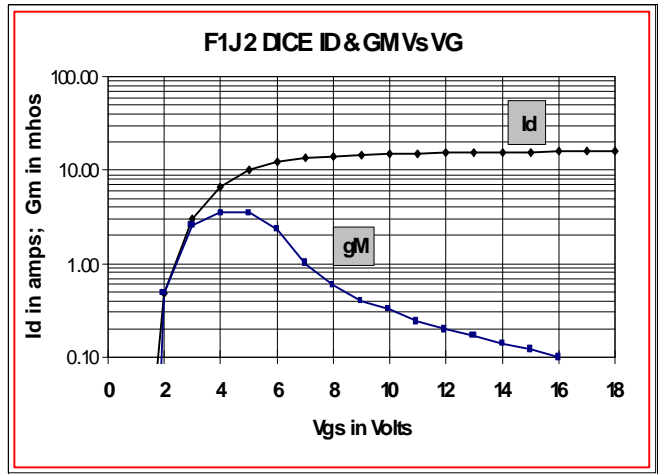
S11 AND S22 SMITH CHART



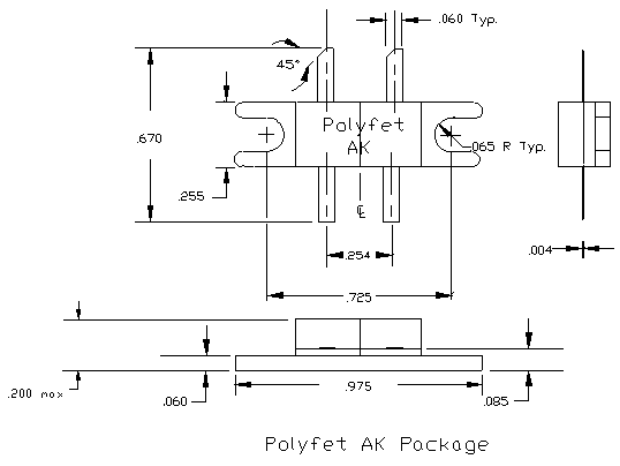
CAPACITANCE VS VOLTAGE



ID AND GM VS VGS



PACKAGE DIMENSIONS IN INCHES



Tolerance 0.XX +/- 0.01 0.XXX +/- 0.005 inches

POLYFET RF DEVICES

REVISION 8/1/97