

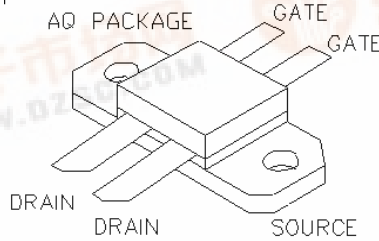


F1016

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

20Watts Push - Pull

Package Style AQ

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
100Watts	1.75 °C/W	200 °C	-65 °C to 150 °C	4 A	70 V	70V	30V

RF CHARACTERISTICS (20WATTS OUTPUT)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	13			dB	$I_{dq} = 0.4 A, V_{ds} = 28.0V, F = 400 MHz$
η	Drain Efficiency		60		%	$I_{dq} = 0.4 A, V_{ds} = 28.0V, F = 400 MHz$
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.4 A, V_{ds} = 28.0V, F = 400 MHz$

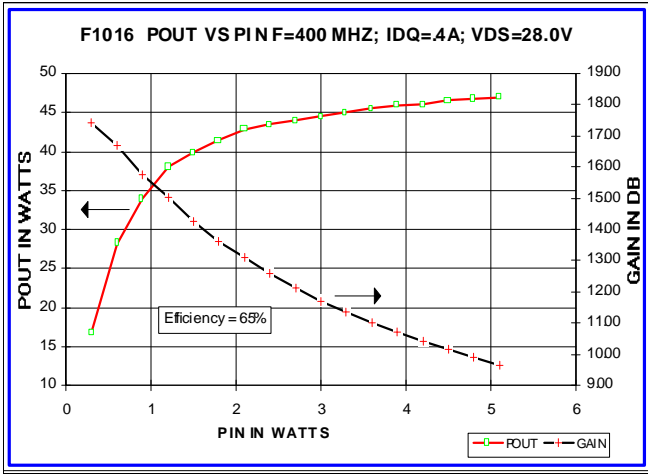
ELECTRICAL CHARACTERISTICS (EACH SIDE)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	65			V	$I_{ds} = 0.05 A, V_{gs} = 0V$
I_{dss}	Zero Bias Drain Current			1	mA	$V_{ds} = 28.0V, V_{gs} = 0V$
I_{gss}	Gate Leakage Current			1	uA	$V_{ds} = 0V, V_{gs} = 30V$
Vgs	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.1 A, V_{gs} = V_{ds}$
gM	Forward Transconductance		0.8		Mho	$V_{ds} = 10V, V_{gs} = 5V$
Rdson	Saturation Resistance		1		Ohm	$V_{gs} = 20V, I_{ds} = 4A$
I_{dsat}	Saturation Current		5.5		Amp	$V_{gs} = 20V, V_{ds} = 10V$
Ciss	Common Source Input Capacitance		33		pF	$V_{ds} = 28.0V, V_{gs} = 0V, F = 1 MHz$
Crss	Common Source Feedback Capacitance		4		pF	$V_{ds} = 28.0V, V_{gs} = 0V, F = 1 MHz$
Coss	Common Source Output Capacitance		20		pF	$V_{ds} = 28.0V, V_{gs} = 0V, F = 1 MHz$

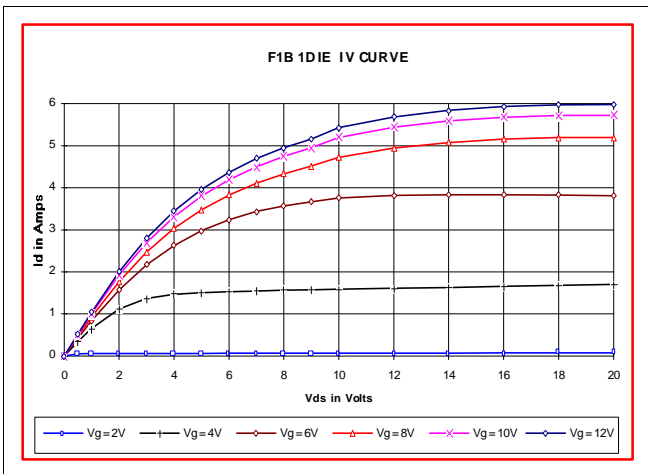


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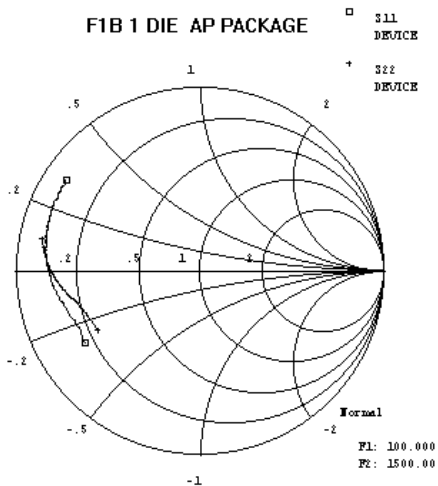
POUT VS PIN GRAPH



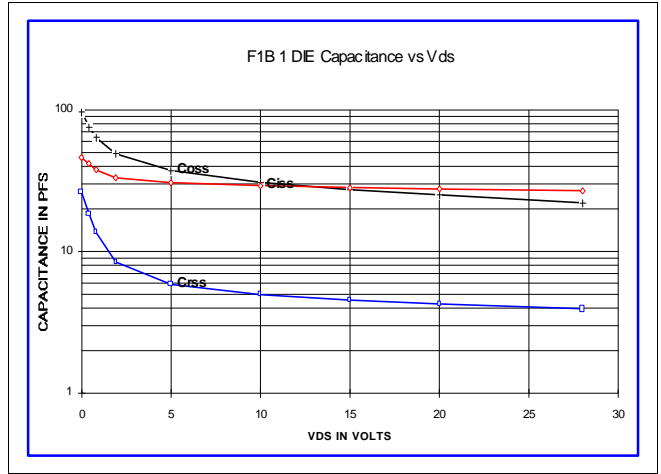
IV CURVE



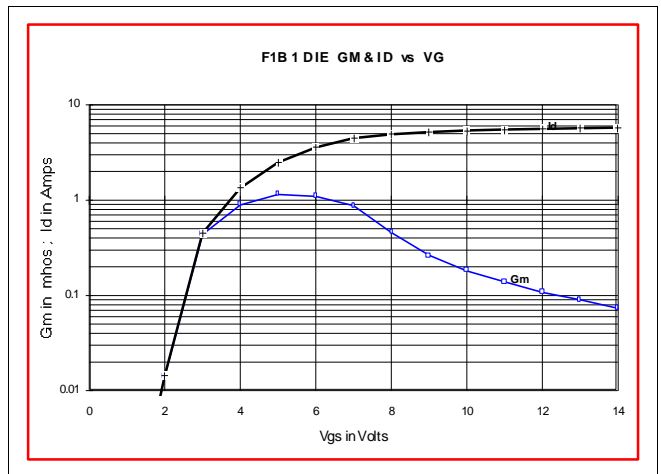
S11 AND S22 SMITH CHART



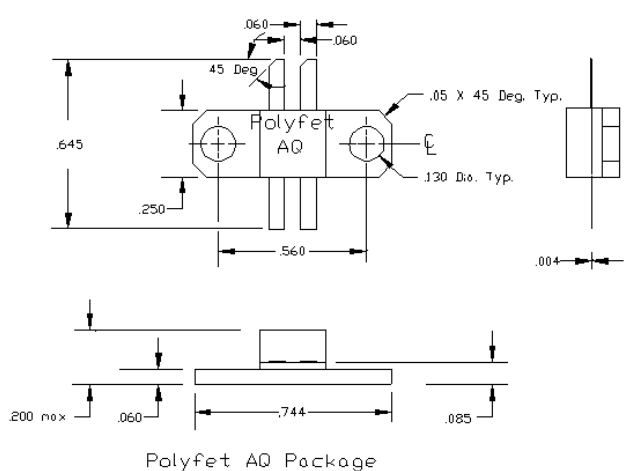
CAPACITANCE VS VOLTAGE



ID AND GM VS VGS



PACKAGE DIMENSIONS IN INCHES



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