



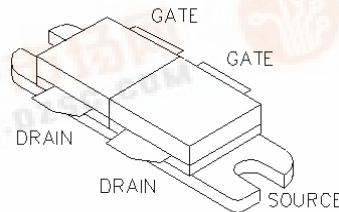
polyfet rf devices

LY402

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"™ process features low feedback and output capacitances resulting in high F_t transistors with high input impedance and high efficiency.



SILICON GATE ENHANCEMENT MODE

RF POWER LDMOS TRANSISTOR

220.0 Watts Push - Pull

Package Style AY

HIGH EFFICIENCY, LINEAR

HIGH GAIN, LOW NOISE

ABSOLUTE MAXIMUM RATINGS ($T = 25^{\circ}\text{C}$)

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
440 Watts	0.38°C/W	200°C	-65°C to 150°C	13.5 A	70 V	70 V	20 V

RF CHARACTERISTICS (220.0 WATTS OUTPUT)

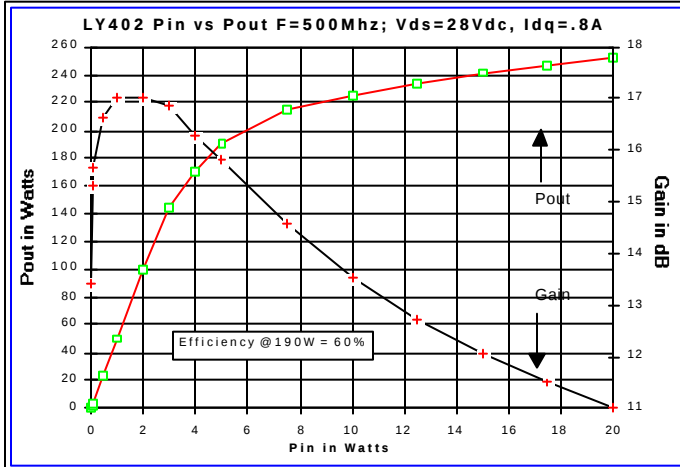
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Gps	Common Source Power Gain	13			dB	$I_{dq} = 0.80\text{ A}$, $V_{ds} = 28.0\text{ V}$, $F = 500\text{ MHz}$
η	Drain Efficiency		60		%	$I_{dq} = 0.80\text{ A}$, $V_{ds} = 28.0\text{ V}$, $F = 500\text{ MHz}$
VSWR	Load Mismatch Tolerance			20:1	Relative	$I_{dq} = 0.80\text{ A}$, $V_{ds} = 28.0\text{ V}$, $F = 500\text{ MHz}$

ELECTRICAL CHARACTERISTICS (EACH SIDE)

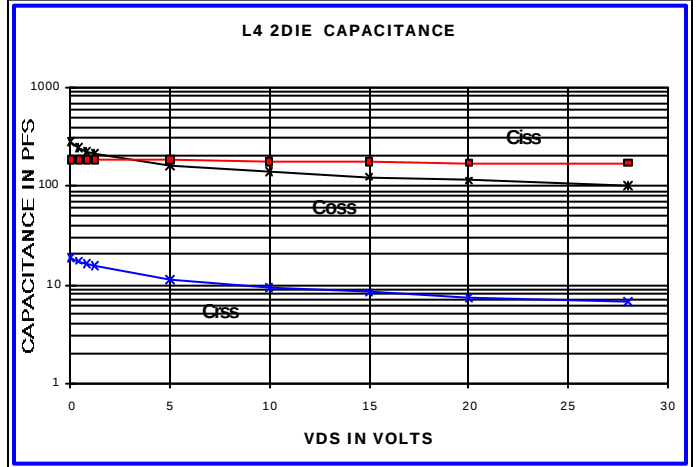
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Bvdss	Drain Breakdown Voltage	65			V	$I_{ds} = 0.50\text{ mA}$, $V_{gs} = 0\text{ V}$
I_{dss}	Zero Bias Drain Current			2.0	mA	$V_{ds} = 28.0\text{ V}$, $V_{gs} = 0\text{ V}$
I_{gss}	Gate Leakage Current			1	uA	$V_{ds} = 0\text{ V}$, $V_{gs} = 30\text{ V}$
V_{gs}	Gate Bias for Drain Current	1		7	V	$I_{ds} = 0.30\text{ A}$, $V_{gs} = V_{ds}$
gM	Forward Transconductance		5.4		Mho	$V_{ds} = 10\text{ V}$, $V_{gs} = 5\text{ V}$
R_{dson}	Saturation Resistance		0.17		Ohm	$V_{gs} = 20\text{ V}$, $I_{ds} \leq 6.00\text{ A}$
I_{dsat}	Saturation Current		34.00		Amp	$V_{gs} = 20\text{ V}$, $V_{ds} = 10\text{ V}$
Ciss	Common Source Input Capacitance		160.0		pF	$V_{ds} = 28.0\text{ V}$, $V_{gs} = 0\text{ V}$, $F = 1\text{ MHz}$
Crss	Common Source Feedback Capacitance		8.0		pF	$V_{ds} = 28.0\text{ V}$, $V_{gs} = 0\text{ V}$, $F = 1\text{ MHz}$
Coss	Common Source Output Capacitance		100.0		pF	$V_{ds} = 28.0\text{ V}$, $V_{gs} = 0\text{ V}$, $F = 1\text{ MHz}$

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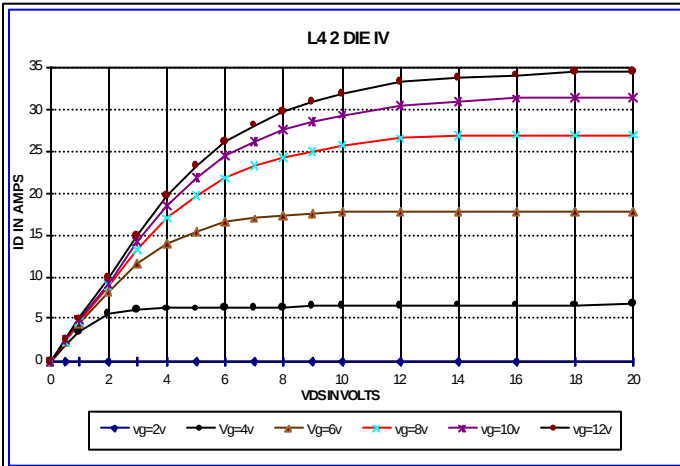
POUT VS PIN GRAPH



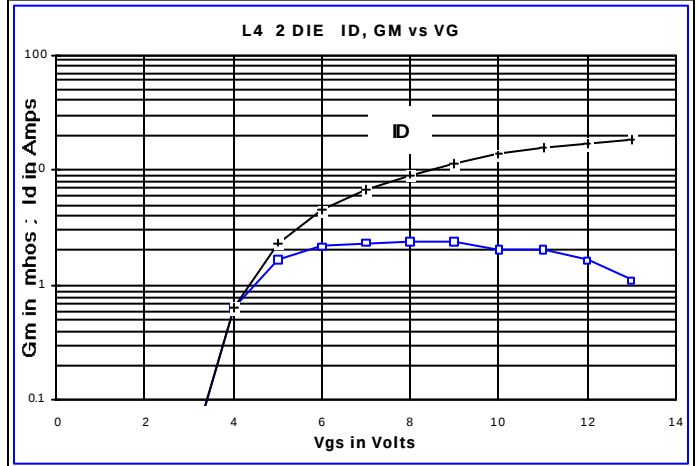
CAPACITANCE VS VOLTAGE



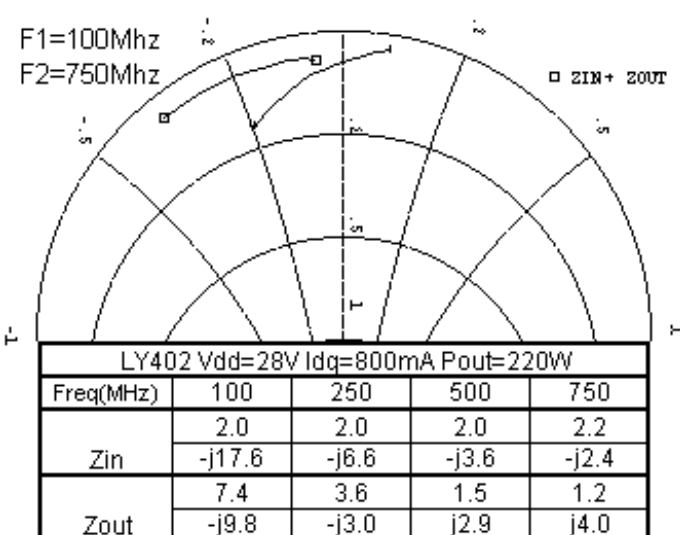
IV CURVE



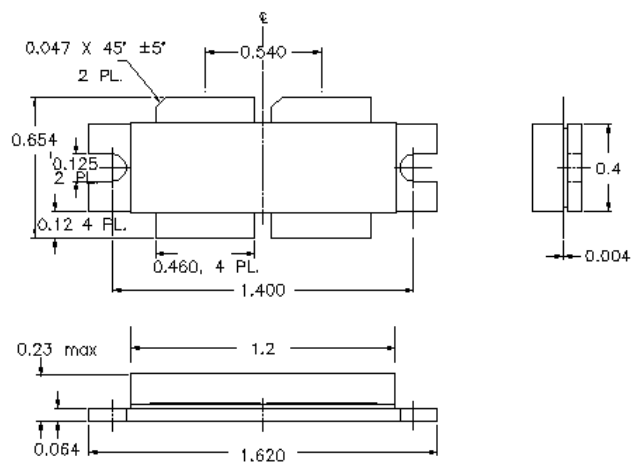
ID & GM VS VGS



Zin Zout



PACKAGE DIMENSIONS IN INCHES



Polyfet AY Package
Tolerance .XX +/-0.01 .XXX +/- .005 inches

01/17/2002

POLYFET RF DEVICES

REVISION