

# RF MOSFET Power Transistor, 10W, 28V

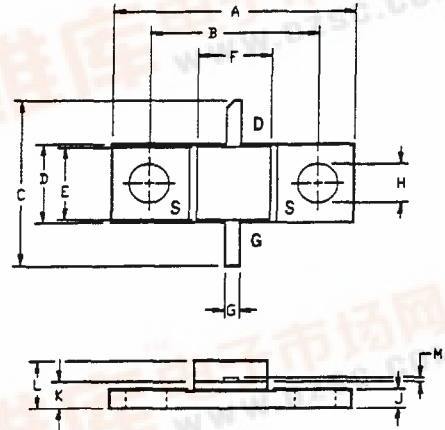
## 500 - 1000 MHz

LF2810A

V2.00

### Features

- N-Channel Enhancement Mode Device
- DMOS Structure
- Lower Capacitances for Broadband Operation
- Common Source Configuration
- Lower Noise Floor
- Applications
  - Broadband Linear Operation  
500 MHz to 1200 MHz



### Absolute Maximum Ratings at 25°C

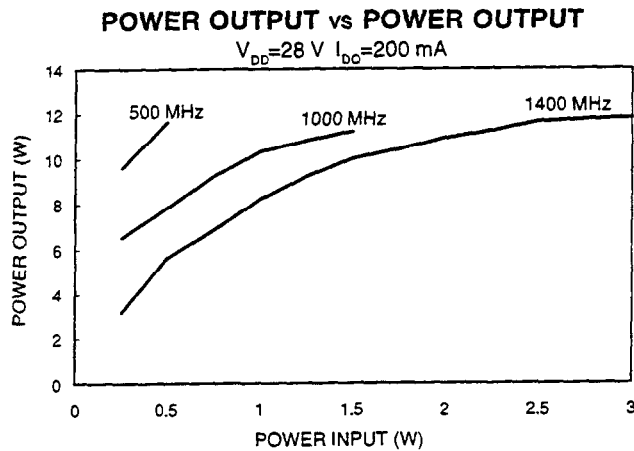
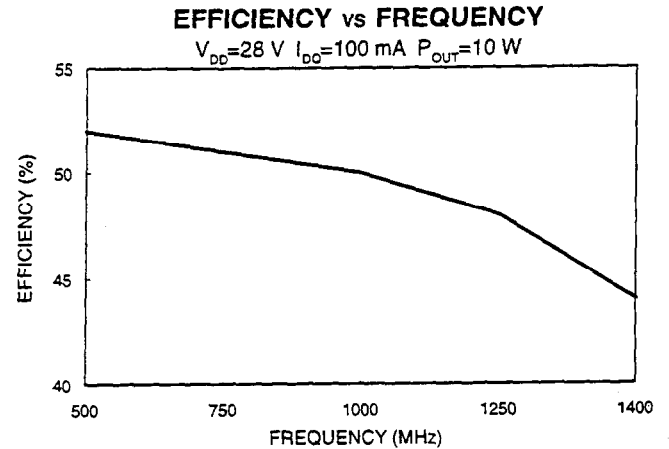
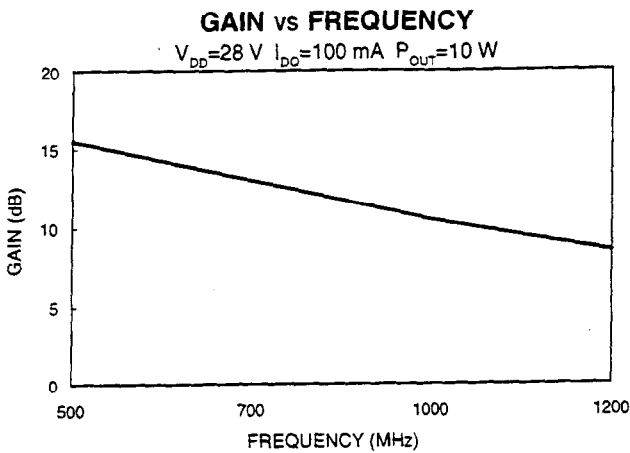
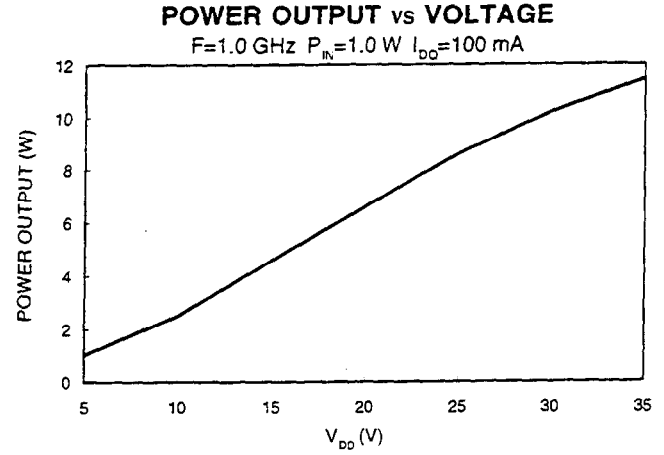
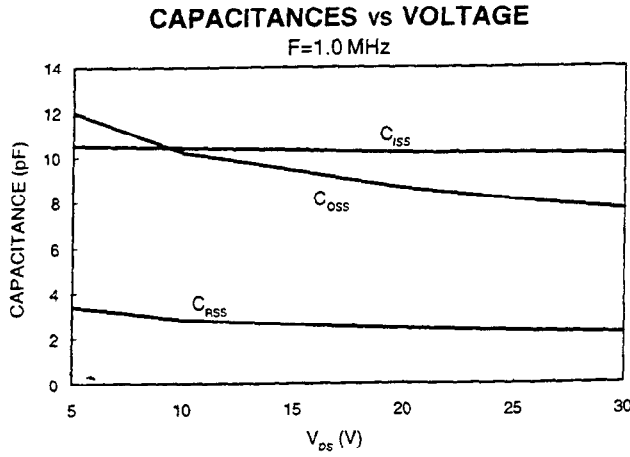
Parameter	Symbol	Rating	Units
Drain-Source Voltage	$V_{DS}$	65	V
Gate-Source Voltage	$V_{GS}$	20	V
Drain-Source Current	$I_{DS}$	2.8	A
Power Dissipation	$P_D$	26.5	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C
Thermal Resistance	$\theta_{JC}$	6.6	°C/W

LETTER DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	20.70	20.96	.815	.825
B	14.35	14.61	.565	.575
C	13.72	14.22	.540	.560
D	6.27	6.53	.247	.257
E	6.22	6.48	.245	.255
F	6.22	6.48	.245	.255
G	1.14	1.40	.045	.055
H	2.92	3.18	.115	.125
J	1.40	1.65	.055	.065
K	1.96	2.46	.077	.097
L	3.61	4.37	.142	.172
M	.08	.15	.003	.006

### Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	$BV_{DSS}$	65	-	V	$V_{GS}=0.0\text{ V}, I_{DS}=4.0\text{ mA}$
Drain-Source Leakage Current	$I_{DSS}$	-	2.0	mA	$V_{DS}=28.0\text{ V}, V_{GS}=0.0\text{ V}$
Gate-Source Leakage Current	$I_{GSS}$	-	2.0	$\mu\text{A}$	$V_{GS}=20\text{ V}, V_{DS}=0.0\text{ V}$
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	6.0	V	$V_{DS}=10.0\text{ V}, I_{DS}=20.0\text{ mA}$
Forward Transconductance	$G_M$	160	-	mS	$V_{DS}=10.0\text{ V}, I_{DS}=200.0\text{ mA}, 80\text{-}30\text{ }\mu\text{s Pulse}$
Input Capacitance	$C_{ISS}$	-	14	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}$
Output Capacitance	$C_{OSS}$	-	10	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}$
Reverse Capacitance	$C_{RSS}$	-	4.8	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}$
Power Gain	$G_P$	10	-	dB	$V_{DS}=28.0\text{ V}, I_{DS}=100\text{ mA}, P_{OUT}=10.0\text{ W}, F=1.0\text{ GHz}$
Drain Efficiency	$\eta_D$	50	-	%	$V_{DS}=28.0\text{ V}, I_{DS}=100\text{ mA}, P_{OUT}=10.0\text{ W}, F=1.0\text{ GHz}$
Load Mismatch Tolerance	VSWR-T	-	20:1	-	$V_{DS}=28.0\text{ V}, I_{DS}=100\text{ mA}, P_{OUT}=10.0\text{ W}, F=1.0\text{ GHz}$

Typical Broadband Performance Curves



Specifications Subject to Change Without Notice.

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Typical Device Impedance

Frequency (MHz)	Z <sub>IN</sub> (OHMS)	Z <sub>LOAD</sub> (OHMS)
500	0.60 - j 9.5	10.0 + j 17.0
1000	1.4 + j 1.0	4.85 + j 7.9
1200	1.5 + j 3.5	5.7 + j 5.7

V<sub>DD</sub>=28 V, I<sub>DD</sub>=100 mA, P<sub>OUT</sub>=10 Watts

Z<sub>IN</sub> is the series equivalent input impedance of the device from gate to source.

Z<sub>LOAD</sub> is the optimum series equivalent load impedance as measured from drain to ground.

RF Test Fixture

