

## Rev. V1

- N-channel enhancement mode device
- DMOS structure
- Lower capacitances for broadband operation
- High saturated output power
- Lower noise figure than competitive devices

Parameter	Symbol	Rating	Units
Drain-Source Voltage	$V_{DS}$	65	V
Gate-Source Voltage	$V_{GS}$	20	V
Drain-Source Current	$I_{DS}$	12*	A
Power Dissipation	$P_D$	250	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C
Thermal Resistance	$\theta_{JC}$	0.7	°C/W

F (MHz)	Z <sub>IN</sub> (Ω)	Z <sub>LOAD</sub> (Ω)
100	4.5-j6.0	14.5+j0.5
300	2.25-j1.75	7.5j1.0
500	1.5+j5.5	3.5+j3.5

V<sub>DD</sub>=28V, I<sub>DD</sub>=600 Ma, P<sub>OUT</sub>=100.0 W

$Z_{LOAD}$  is the optimum series equivalent load impedance as measured from drain to drain.

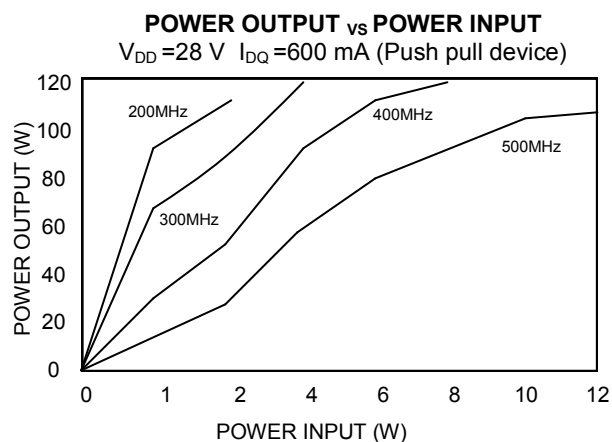
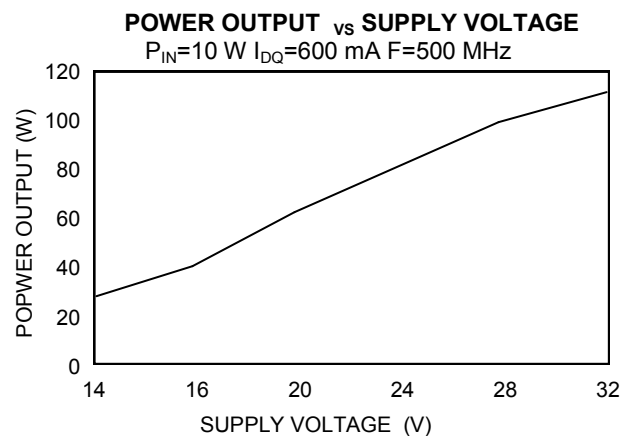
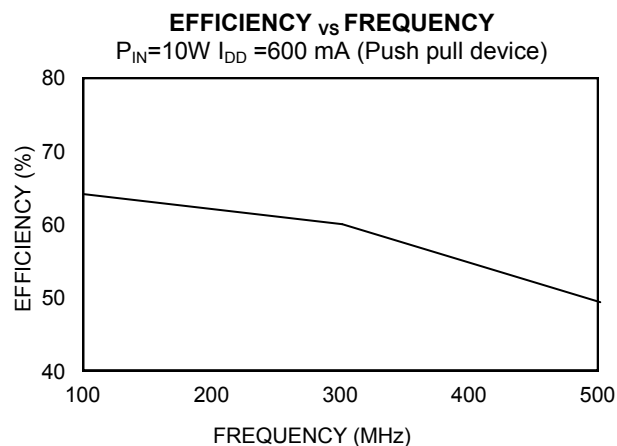
Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	$BV_{DSS}$	65	-	V	$V_{GS} = 0.0\text{ V}$ , $I_{DS} = 15.0\text{ mA}$
Drain-Source Leakage Current	$I_{DSS}$	-	3.0	mA	$V_{GS} = 28.0\text{ V}$ , $V_{DS} = 0.0\text{ V}$
Gate-Source Leakage Current	$I_{GSS}$	-	3.0	$\mu\text{A}$	$V_{GS} = 20.0\text{ V}$ , $V_{DS} = 0.0\text{ V}$
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	6.0	V	$V_{DS} = 10.0\text{ V}$ , $I_{DS} = 300.0\text{ mA}$
Forward Transconductance	$G_M$	1.5	-	S	$V_{DS} = 10.0\text{ V}$ , $I_{DS} 3000.0\text{ mA}$ , $\Delta V_{GS} = 1.0\text{V}$ , 80 $\mu\text{s}$ Pulse
Input Capacitance	$C_{ISS}$	-	135	pF	$V_{DS} = 28.0\text{ V}$ , $F = 1.0\text{ MHz}$
Output Capacitance	$C_{OSS}$	-	90	pF	$V_{DS} = 28.0\text{ V}$ , $F = 1.0\text{ MHz}$
Reverse Capacitance	$C_{RSS}$	-	24	pF	$V_{DS} = 28.0\text{ V}$ , $F = 1.0\text{ MHz}$
Power Gain	$G_P$	10	-	dB	$V_{DD} = 28.0\text{ V}$ , $I_{DQ} = 600.0\text{ mA}$ , $P_{OUT} = 100.0\text{ W}$ $F = 500\text{ MHz}$
Drain Efficiency	$\eta_D$	50	-	%	$V_{DD} = 28.0\text{ V}$ , $I_{DQ} = 600.0\text{ mA}$ , $P_{OUT} = 100.0\text{ W}$ $F = 500\text{ MHz}$
Return Loss	$R_L$	10	-	dB	$V_{DD} = 28.0\text{ V}$ , $I_{DQ} = 600.0\text{ mA}$ , $P_{OUT} = 100.0\text{ W}$ $F = 500\text{ MHz}$
Load Mismatch Tolerance	VSWR-T	-	30:1	-	$V_{DD} = 28.0\text{ V}$ , $I_{DQ} = 600.0\text{ mA}$ , $P_{OUT} = 100.0\text{ W}$ $F = 500\text{ MHz}$

[illegible]

## RF Power MOSFET Transistor 100W, 100-500 MHz, 28V

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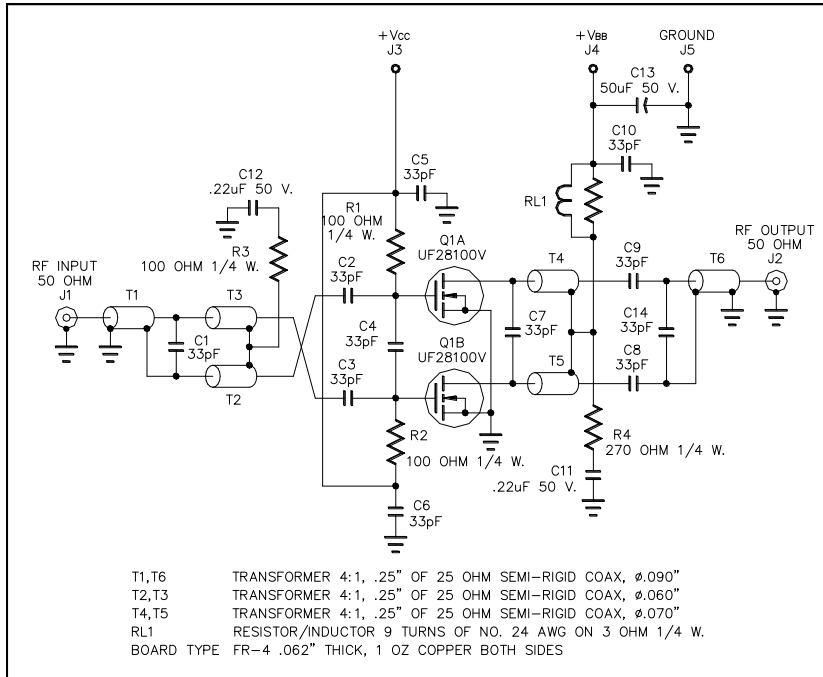
### Typical Broadband Performance Curves



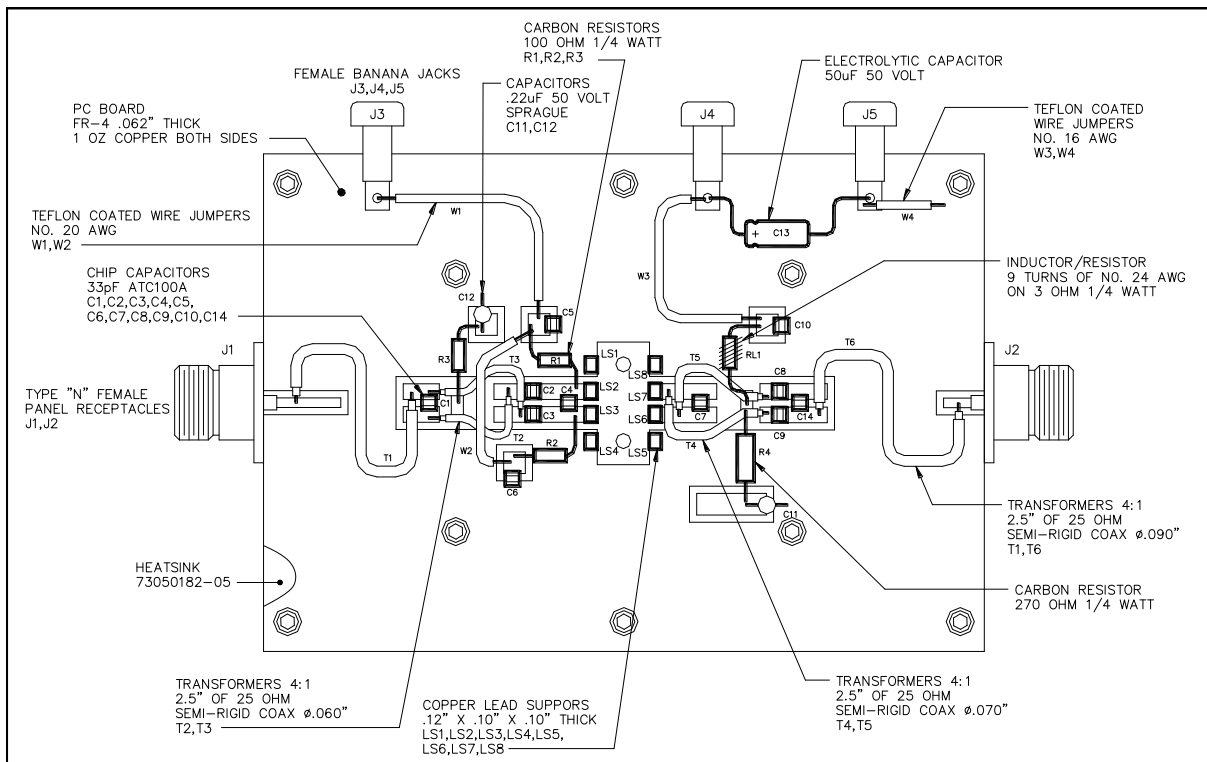
## RF Power MOSFET Transistor 100W, 100-500 MHz, 28V

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### TEST FIXTURE SCHEMATIC



### TEST FIXTURE ASSEMBLY



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