

## RF Power MOSFET Transistor 80W, 2-175MHz, 28V

M/A-COM Products  
Released; RoHS Compliant

### Features

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

### ABSOLUTE MAXIMUM RATINGS AT 25° C

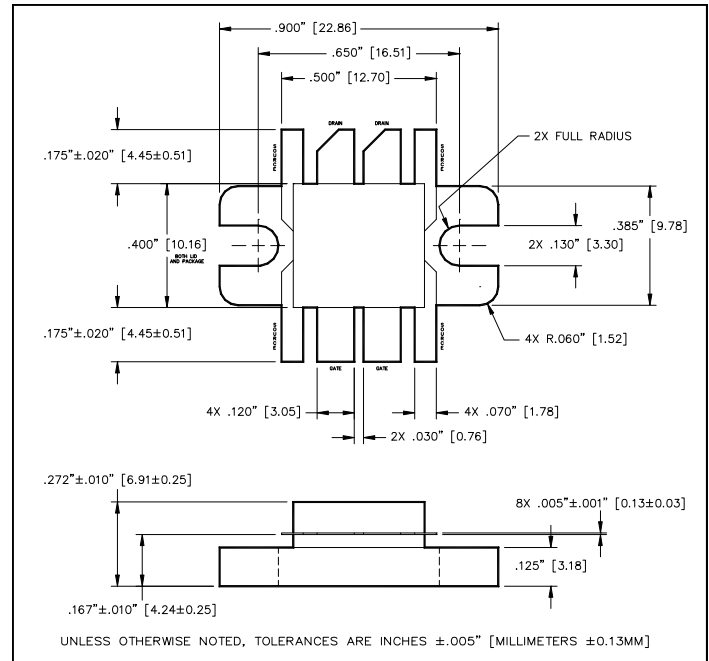
Parameter	Symbol	Rating	Units
Drain-Source Voltage	$V_{DS}$	65	V
Gate-Source Voltage	$V_{GS}$	20	V
Drain-Source Current	$I_{DS}$	8*	A
Power Dissipation	$P_D$	206	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C
Thermal Resistance	$\theta_{JC}$	0.85	°C/W

### TYPICAL DEVICE IMPEDANCE

F (MHz)	$Z_{IN}$ ( $\Omega$ )	$Z_{LOAD}$ ( $\Omega$ )
30	4.5 - j14.5	13.5 + j4.5
100	3.0 - j10.5	13.5 + j6.0
175	2.0 - j7.5	12.0 + j4.5

$V_{DD} = 28V, I_{DQ} = 400mA, P_{OUT} = 80W$

### Package Outline



$Z_{IN}$  is the series equivalent input impedance of the device from gate to source.

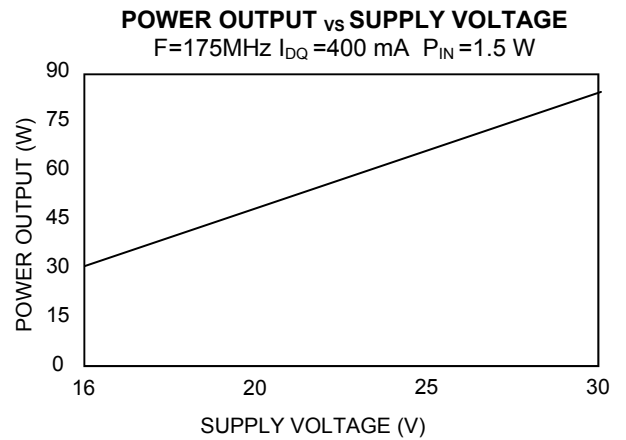
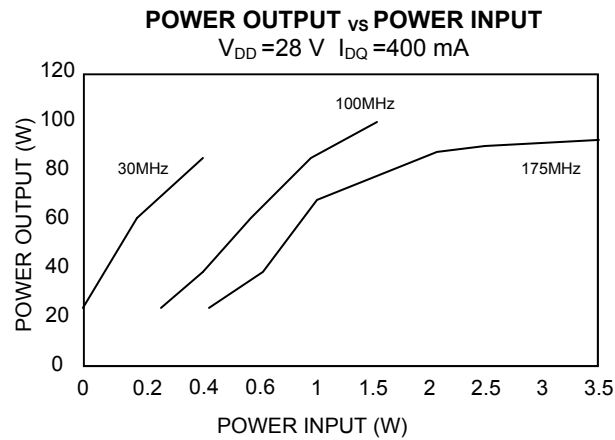
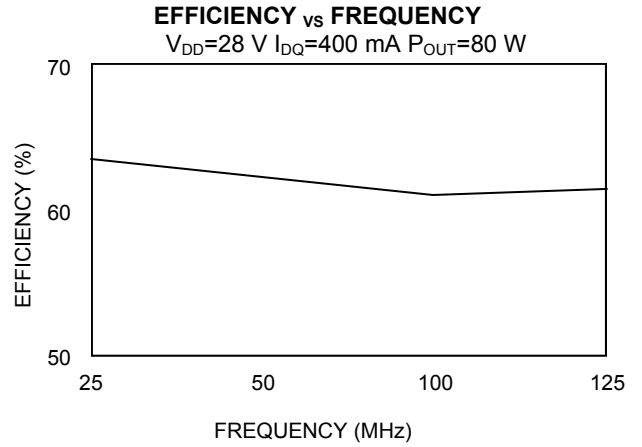
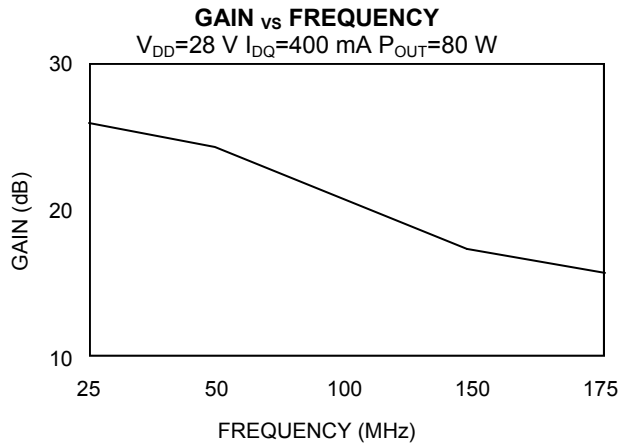
$Z_{LOAD}$  is the optimum series equivalent load impedance as measured from drain to ground.

### ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	$BV_{DSS}$	65	-	V	$V_{GS} = 0.0V, I_{DS} = 10.0mA$
Drain-Source Leakage Current	$I_{DSS}$	-	2.0	mA	$V_{GS} = 28.0V, V_{DS} = 0.0V$
Gate-Source Leakage Current	$I_{GSS}$	-	2.0	$\mu A$	$V_{GS} = 20.0V, V_{DS} = 0.0V$
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	6.0	V	$V_{DS} = 10.0V, I_{DS} = 200.0mA$
Forward Transconductance	$G_M$	1.0	-	S	$V_{DS} = 10.0V, I_{DS} = 2000.00mA, \Delta V_{GS} = 1.0V, 80\mu s$ Pulse
Input Capacitance	$C_{ISS}$	-	90	pF	$V_{DS} = 28.0V, F = 1.0MHz$
Output Capacitance	$C_{OSS}$	-	80	pF	$V_{DS} = 28.0V, F = 1.0MHz$
Reverse Capacitance	$C_{RSS}$	-	16	pF	$V_{DS} = 28.0V, F = 1.0MHz$
Power Gain	$G_P$	13	-	dB	$V_{DD} = 28.0V, I_{DQ} = 400mA, P_{OUT} = 80.0W, F = 175MHz$
Drain Efficiency	$\eta_D$	60	-	%	$V_{DD} = 28.0V, I_{DQ} = 400mA, P_{OUT} = 80.0W, F = 175MHz$
Load Mismatch Tolerance	VSWR-T	-	30:1	-	$V_{DD} = 28.0V, I_{DQ} = 400mA, P_{OUT} = 80.0W, F = 175MHz$

\*Per side

**Typical Broadband Performance Curves**



**TEST FIXTURE ASSEMBLY**

