

MAPF-250128-150000



Linear RF Power TMOS
150W, 30MHz 100V

M/A-COM Products
Preliminary - Rev. 1108

RF Electrical Characteristics at 25°C*

Parameter	Symbol	Test Conditions	Minimum	Maximum	Units
Power Gain	GP	$P_{out} = 150 \text{ W (PEP)}$	19		dB
		$P_{out} = 150 \text{ W, } F = 128 \text{ MHz CW}$	14		dB
Drain Efficiency	η	$P_{out} = 150 \text{ W (PEP)}$	40		%
		$P_{out} = 150 \text{ W, } F = 128 \text{ MHz CW}$	50		%
Intermodulation	IM3	$P_{out} = 150 \text{ W (PEP)}$		-30	dBc
Electrical Ruggedness	Ψ	$P_{out} = 150 \text{ W (PEP)}$, VSWR 5:1, 360°	No degradation		
CW Output Power at P1dB	P_{1DB}	$V_{DD} = 100 \text{ V, } F = 30 \text{ MHz, } I_{DQ} = 160 \text{ mA}$	150		Watts
		$V_{DD} = 100 \text{ V, } F = 128 \text{ MHz, } I_{DQ} = 160 \text{ mA}$	150		Watts

* Test conditions unless otherwise specified: $V_{DD} = 100 \text{ V}$, $I_{DQ} = 160 \text{ mA}$, $F_1 = 30 \text{ MHz}$, $F_2 = F_1 + 0.001 \text{ MHz}$

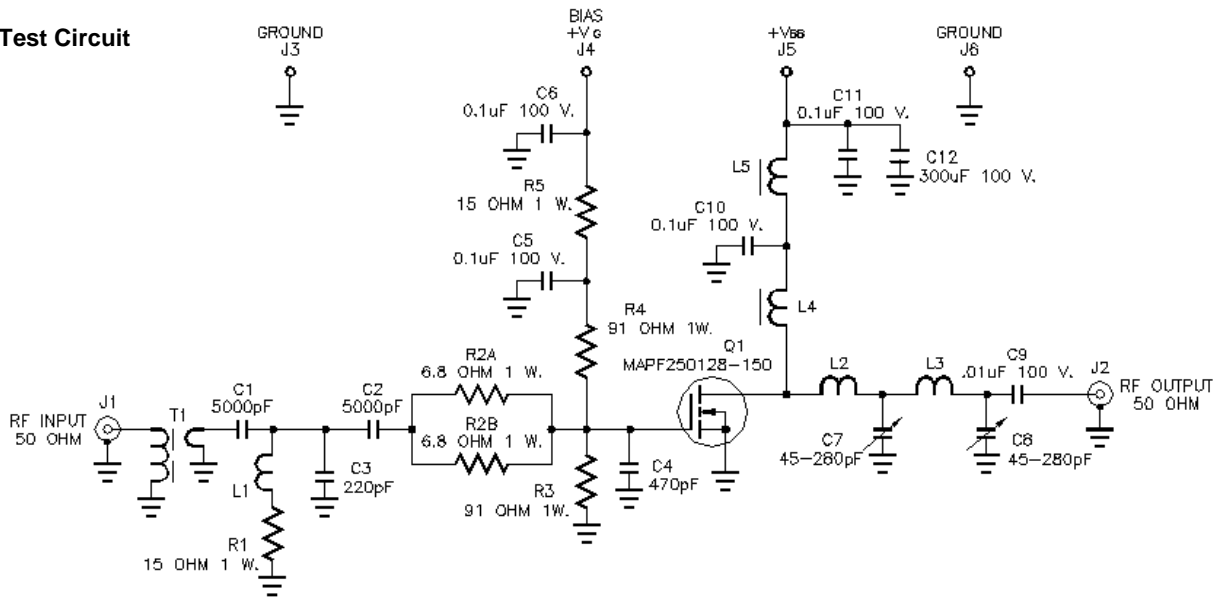
Large Signal Impedance

$V_{DD} = 100 \text{ V}$; $I_{DQ} = 160 \text{ mA}$; $P_{OUT} = 150 \text{ W (PEP)}$, 30MHz; $P_{OUT} = 150 \text{ W (P1dB)}$, 128MHz

F (MHz)	Z IN (Ω)	Z L(opt) (Ω)
30	5.09-j0.84	17.71+j14.21
128	1.90+j2.71	3.04+j7.08

Z_{IN} = Complex conjugate of source impedance
 $Z_{L(OPT)}$ = Load impedance for optimum output power and IMD at specified voltage, quiescent current and efficiency.

30MHz Test Circuit



- L1 AIR CORE INDUCTOR, 4 TURNS OF NO. 22 AWG $\phi .20" \times .12"$ LONG
- L2,L3 AIR CORE INDUCTOR, 5 TURNS OF NO. 18 AWG $\phi .25" \times .30"$ LONG
- L4 INDUCTOR, 8.4uH SPTS0H-842X, COLCRAFT OR 18 TURNS OF NO. 18 AWG ON T50-18, MICROMETALS
- L5 INDUCTOR 2.0uH, NO. 18 AWG THROUGH FERRITE BEAD
- T1 BROADBAND TRANSFORMER, IMPEDANCE 16:1 32-38uH PRIMARY SIDE
- BOARD TYPE FR4 .062" THICK 1 OZ COPPER BOTH SIDES

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ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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