

PF00105A

MOS FET Power Amplifier Module
for AMPS Handy Phone

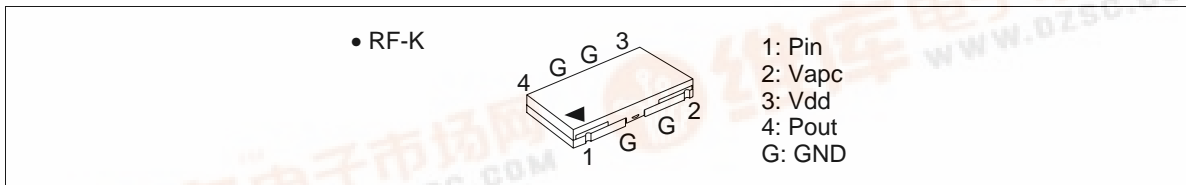
HITACHI

ADE-208-447C (Z)
4th Edition
February 1998

Features

- Low voltage operation : 4.6 V
- 2 stage amplifier : +8 dBm input
- Lead less small package : 0.2 cc
- High efficiency : 48% Typ at 1 W
- Low power control current : 500 μ A Typ

Pin Arrangement



Absolute Maximum Ratings (T_c = 25°C)

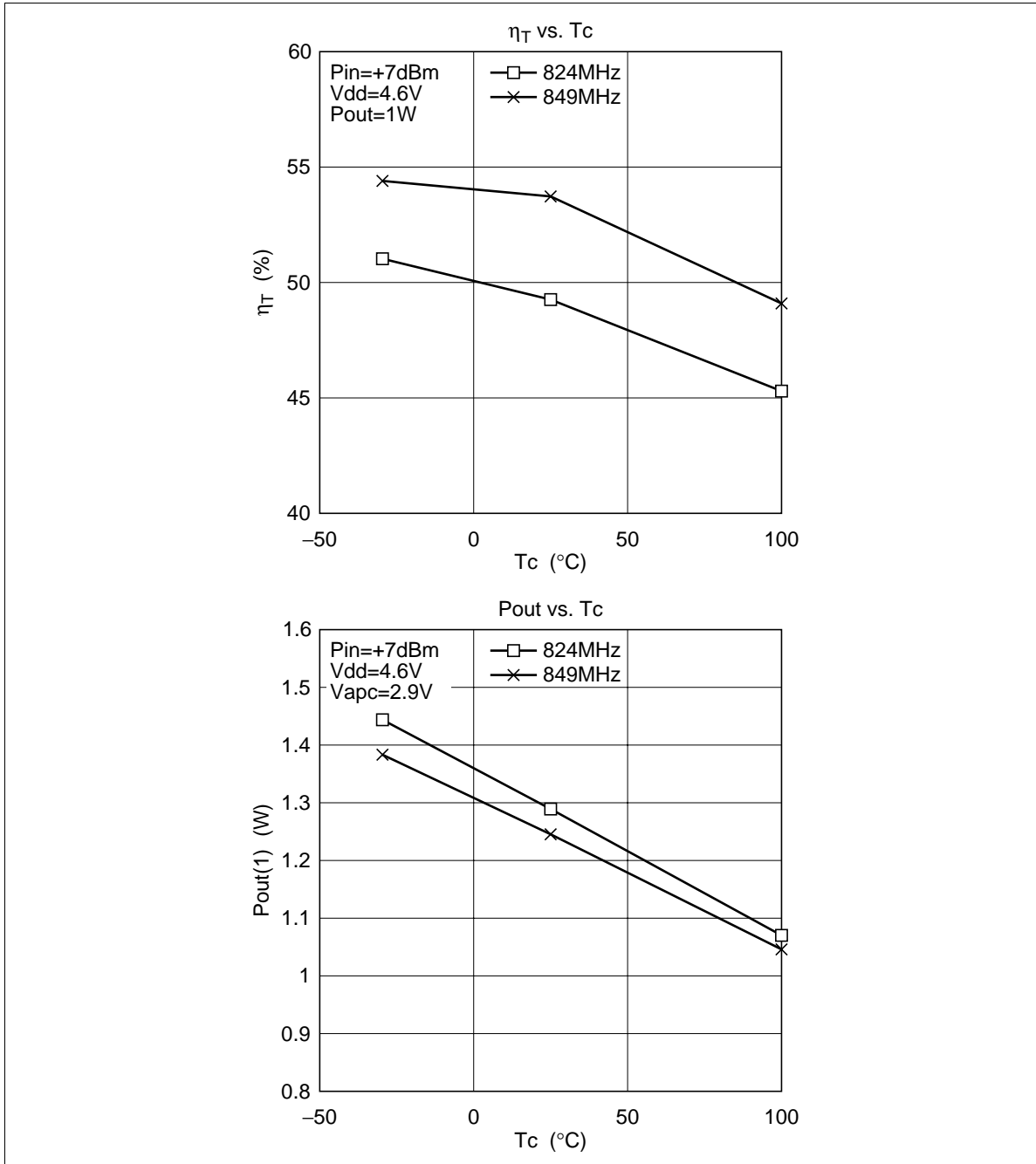
Item	Symbol	Rating	Unit
Supply voltage	V _{DD}	10	V
Supply current	I _{DD}	1	A
V _{APC} voltage	V _{APC}	4.5	V
Input power	P _{in}	20	mW
Operating case temperature	T _c (op)	-30 to +100	°C
Storage temperature	T _{stg}	-30 to +100	°C
Output power	P _{out}	2	W

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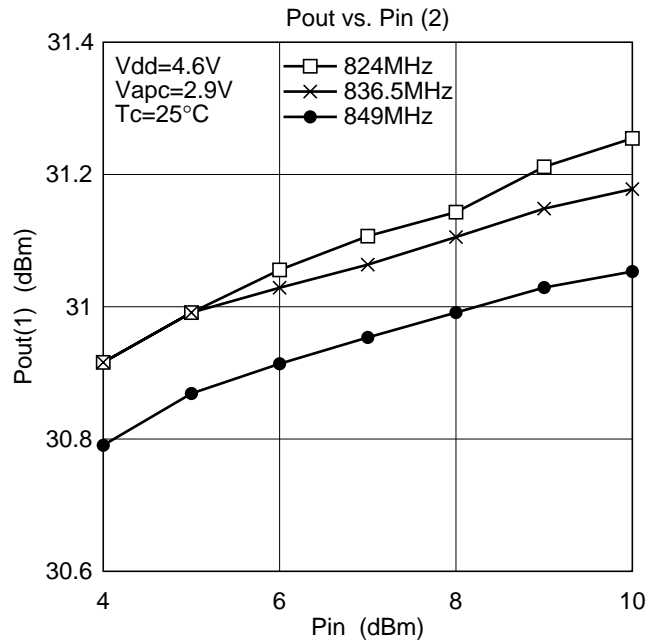
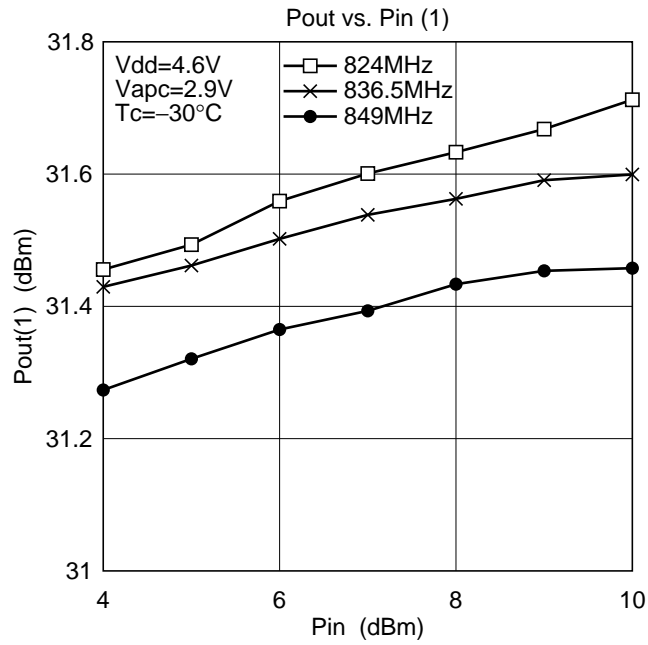
Electrical Characteristics (T_c = 25°C)

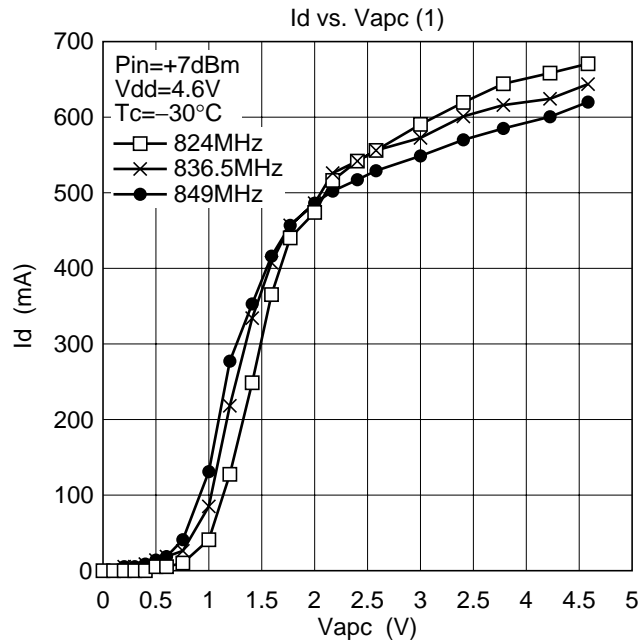
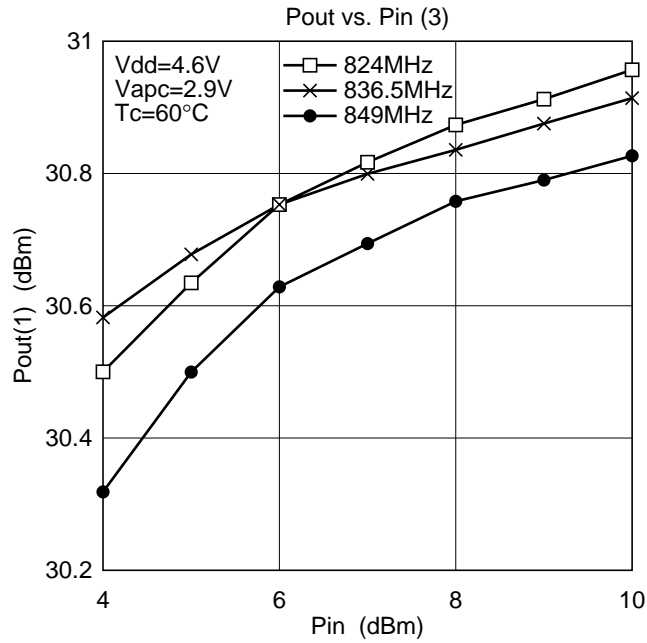
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Frequency range	f	824	—	849	MHz	—
Drain cutoff current	I _{DS}	—	—	20	μA	V _{DD} = 7 V, V _{APC} = 0 V
Total efficiency	η _T	45	48	—	%	Pin = +8 dBm, V _{DD} = 4.6 V,
2nd harmonic distortion	2nd H.D.	—	-40	-30	dBc	Pout = 1 W (at APC controlled)
3rd harmonic distortion	3rd H.D.	—	-40	-30	dBc	R _L = R _g = 50Ω, T _c = 25°C
Input VSWR	VSWR (in)	—	1.5	3.0	—	
Output power	Pout	1.0	1.1	—	W	Pin = +8 dBm, V _{DD} = 4.6 V, V _{APC} = 3 V, R _L = R _g = 50Ω, T _c = 25°C
Isolation	—	—	-20	+6	dBm	Pin = +8 dBm, V _{DD} = 4.6 V, V _{APC} = 0.1 V, R _L = R _g = 50Ω, T _c = 25°C
Stability	—	No parasitic oscillation		—	—	Pin = +8 dBm, V _{DD} = 4.3 to 6 V, Pout ≤ 1.2 W (at APC controlled), R _g = 50 Ω, T _c = 25°C, Output VSWR = 3 : 1 All phases
Load VSWR tolerance	—	No parasitic oscillation		—	—	Pin = +8 dBm, V _{DD} = 4.3 to 6 V, Pout ≤ 1.2 W (at APC controlled), R _g = 50 Ω, T _c = 25°C, Output VSWR = 10 : 1 All phases

Characteristic Curves

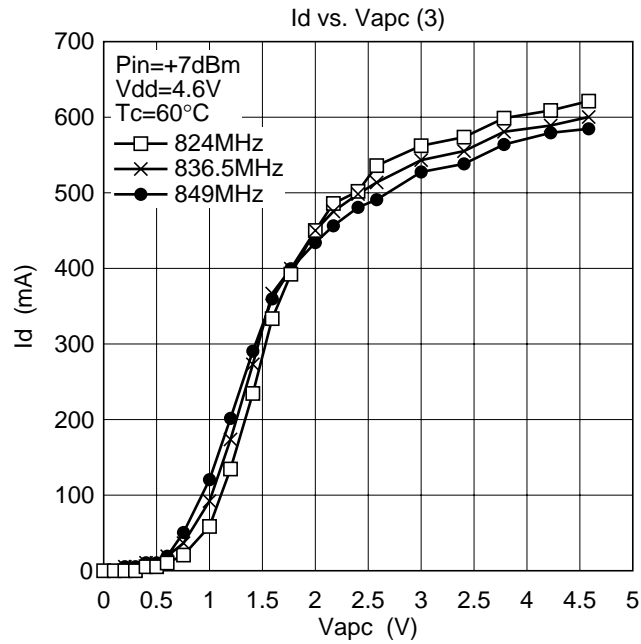
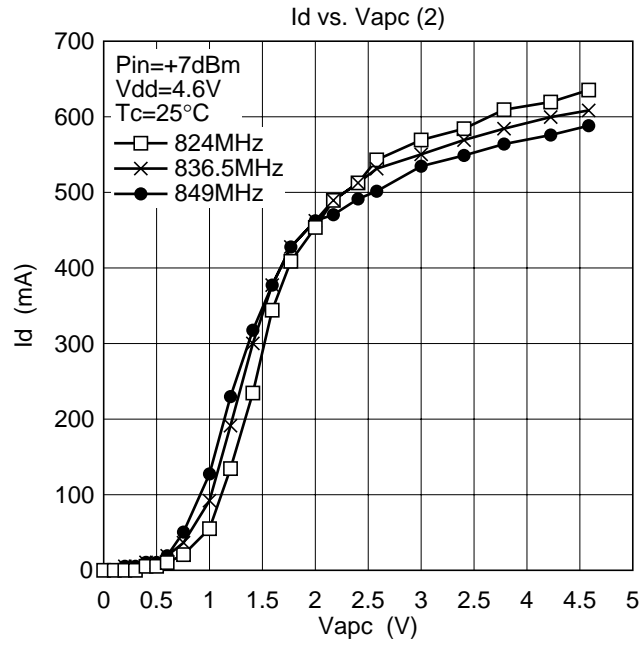


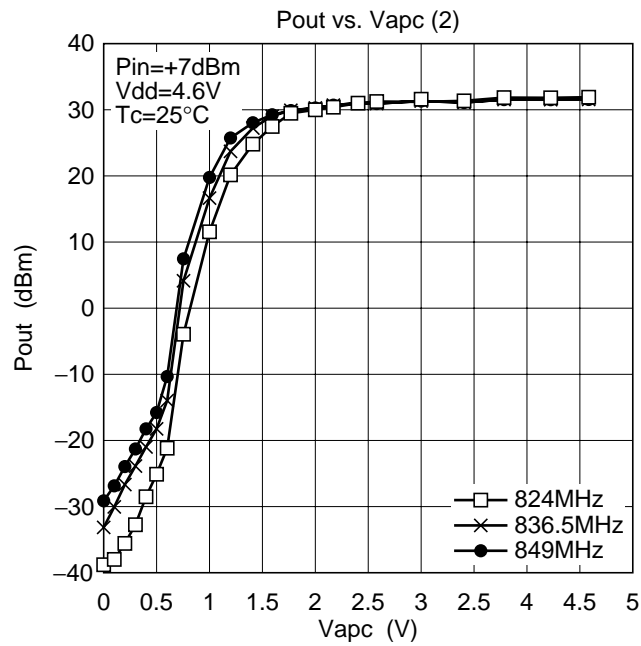
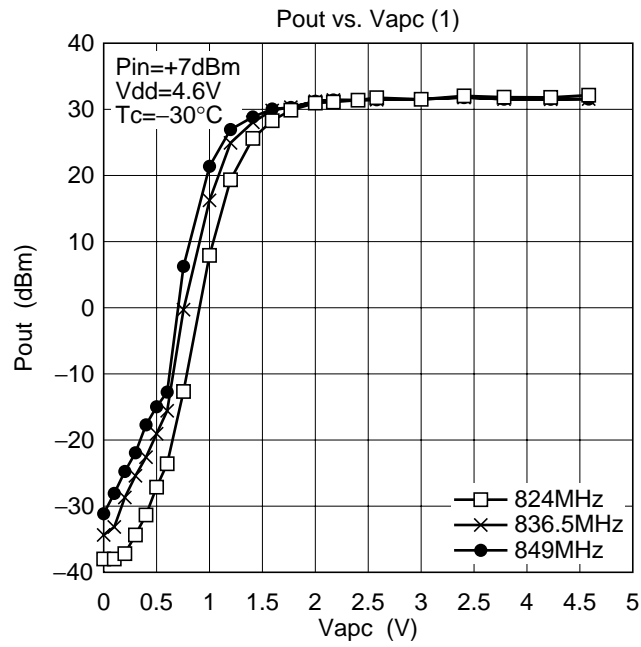
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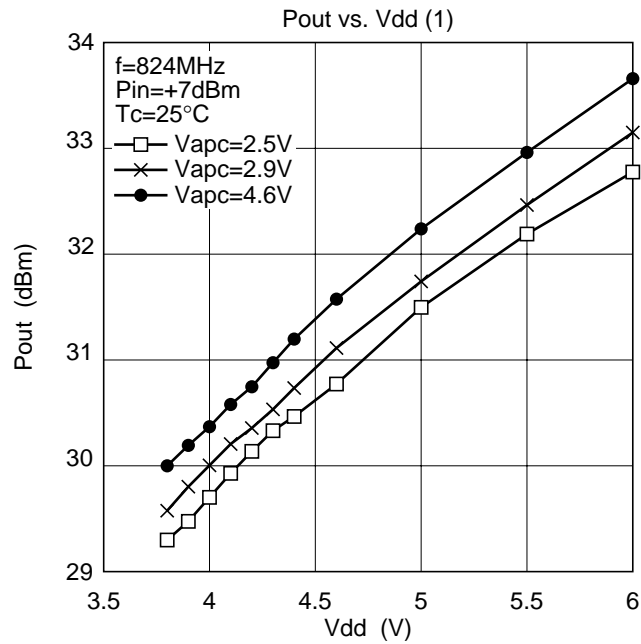
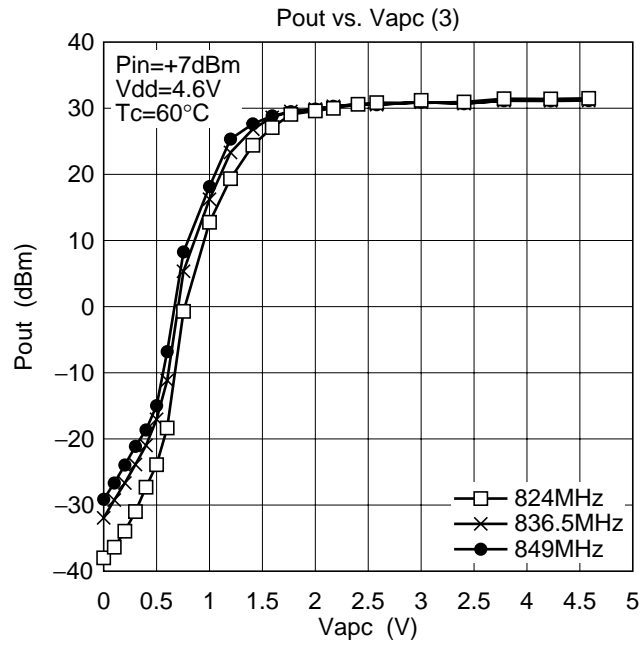


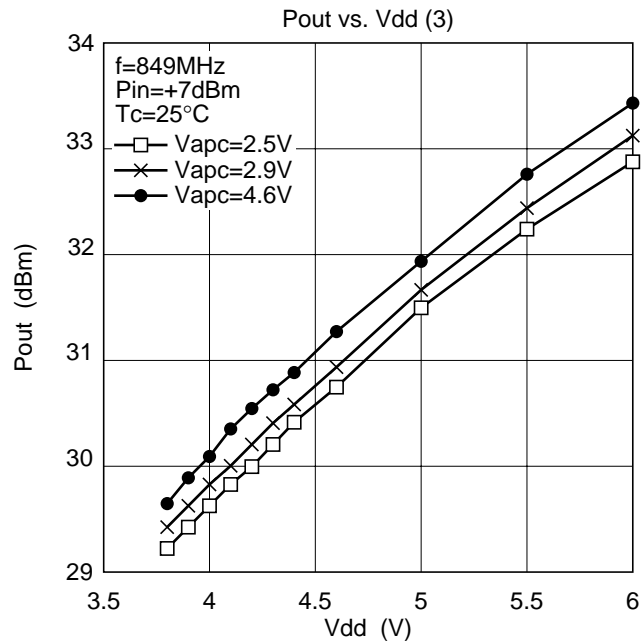
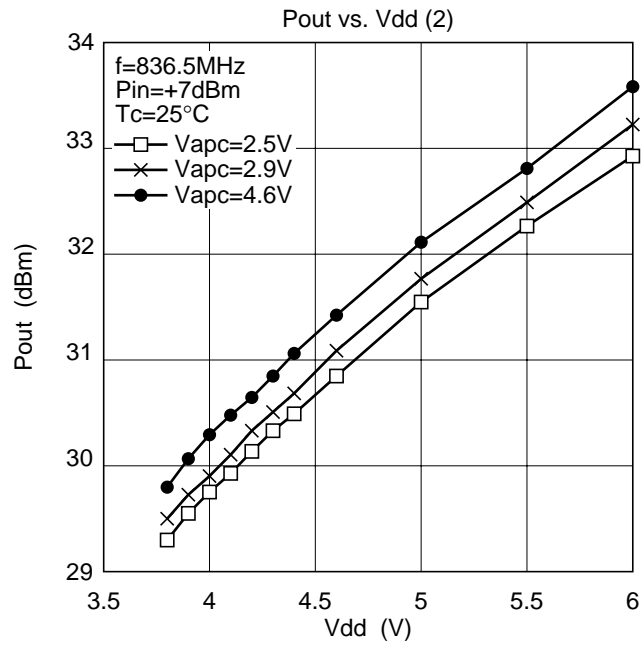
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