

PF0075A

MOS FET Power Amplifier Module for AMPS Handy Phone

HITACHI

ADE-208-341C (Z)

Product preview 4th. Edition

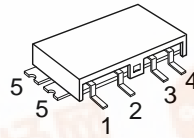
July 1996

Features

- 2 stage amplifier
- High efficiency: 55% Typ at 1.2 W
- Low power control current: 500 μ A
- Reflowable surface mounted small package: 0.6 cc

Pin Arrangement

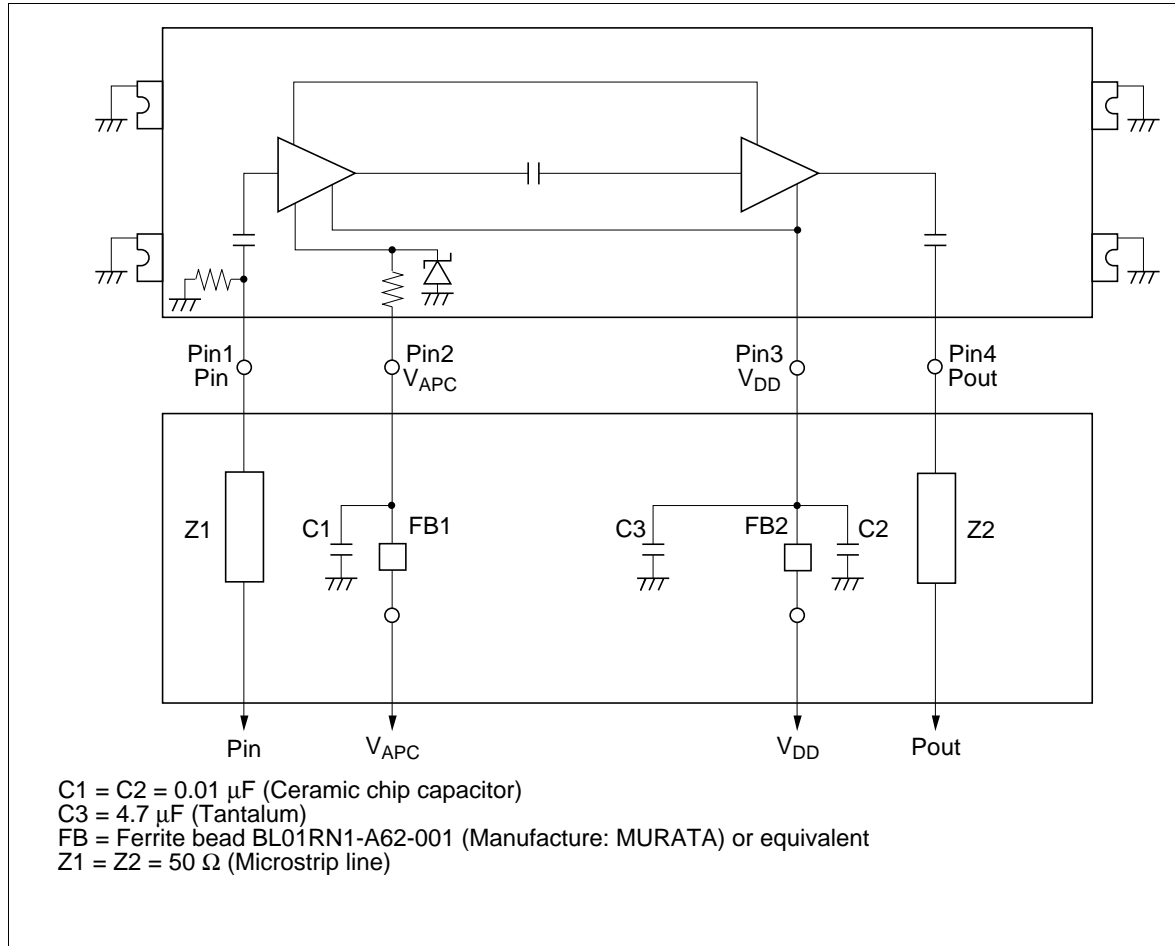
• RF-H1



- 1: Pin
- 2: V_{APC}
- 3: V_{DD}
- 4: Pout
- 5: GND

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Internal Diagram and External Circuit



Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

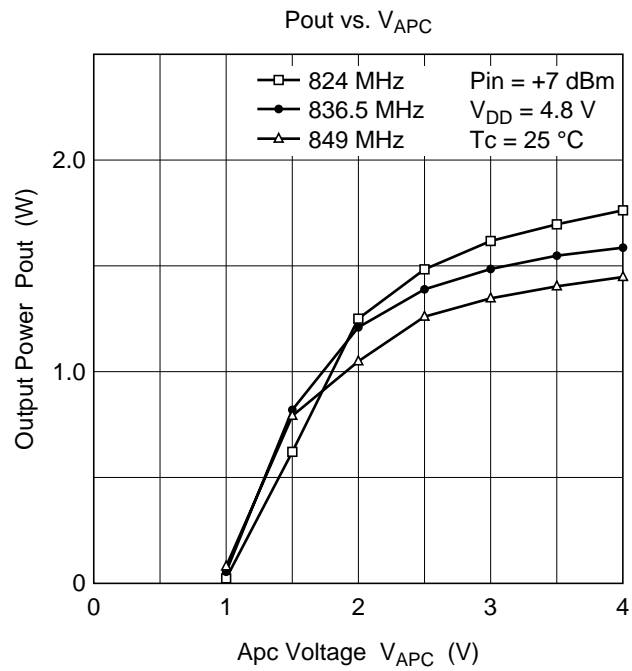
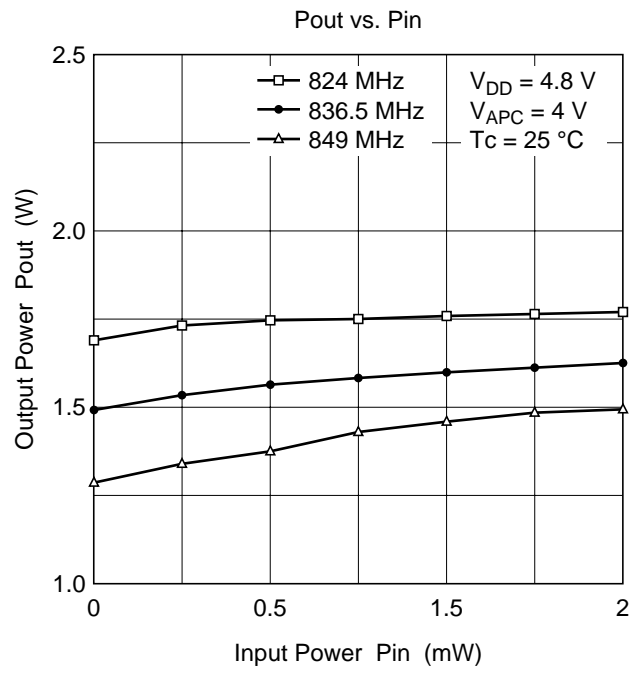
Item	Symbol	Rating	Unit
Supply voltage	VDD	10	V
Supply current	IDD	1.5	A
VAPC voltage	VAPC	7	V
Input power	Pin	40	mW
Operating case temperature	T_c (op)	-30 to +100	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$

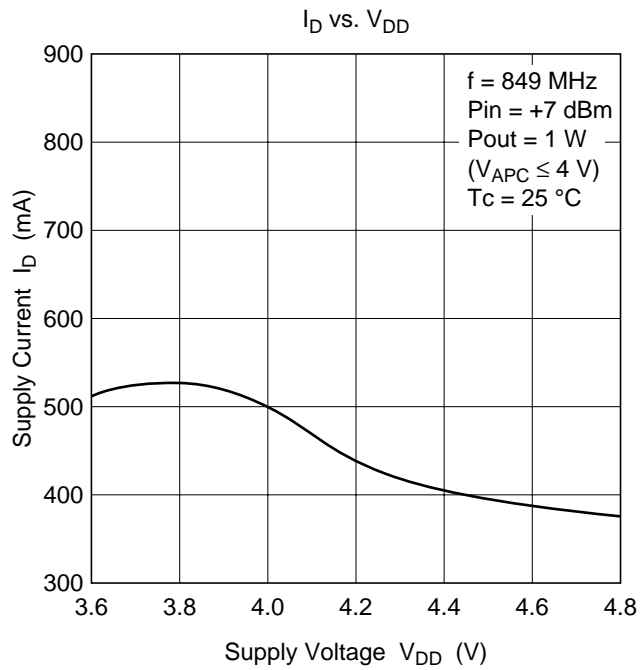
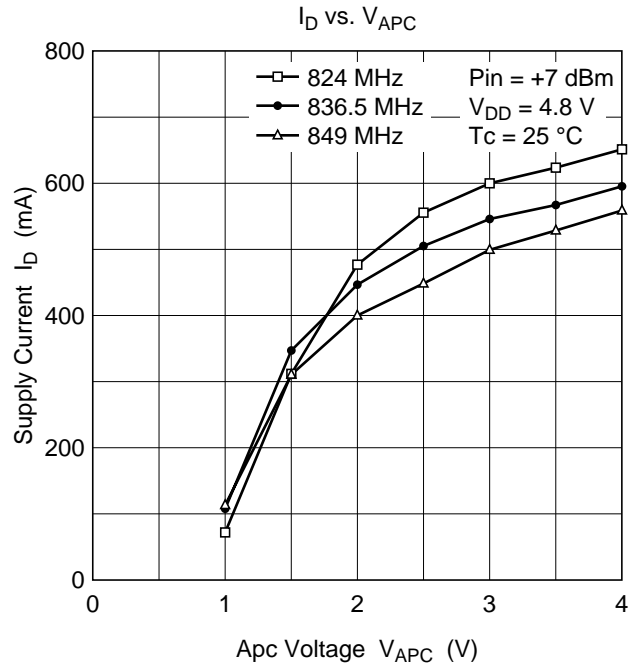
Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Drain cutoff current	IDS	—	—	100	μA	VDD = 10 V, VAPC = 0 V, Rg = RI = 50 Ω
Total efficiency	η_T	50	55	—	%	f = 824, 849 MHz, Pin = +7 dBm,
2nd harmonic distortion	2nd H.D.	—	-40	-30	dBc	VDD = 4.8 V, Rg = RI = 50 Ω
3rd harmonic distortion	3rd H.D.	—	-40	-30	dBc	Pout = 1.2 W (at APC controlled)
Input VSWR	VSWR (in)	—	2	3	—	
Output power	Pout	1.25	1.4	—	W	f = 824, 849 MHz, Pin = +7 dBm, VDD = 4.8 V, VAPC = 4 V, Rg = RI = 50 Ω
Isolation	—	—	-10	+6	dBm	f = 824, 849 MHz, Pin = +7 dBm, VDD = 4.8 V, VAPC = 0.5 V, Rg = RI = 50 Ω
Stability	—	No parasitic oscillation			—	f = 824 to 849 MHz, Pin = +7 dBm, VDD = 4.3V to 6 V, Pout \leq 1.3 W, Rg = 50 Ω , Load VSWR = 3:1 All phases

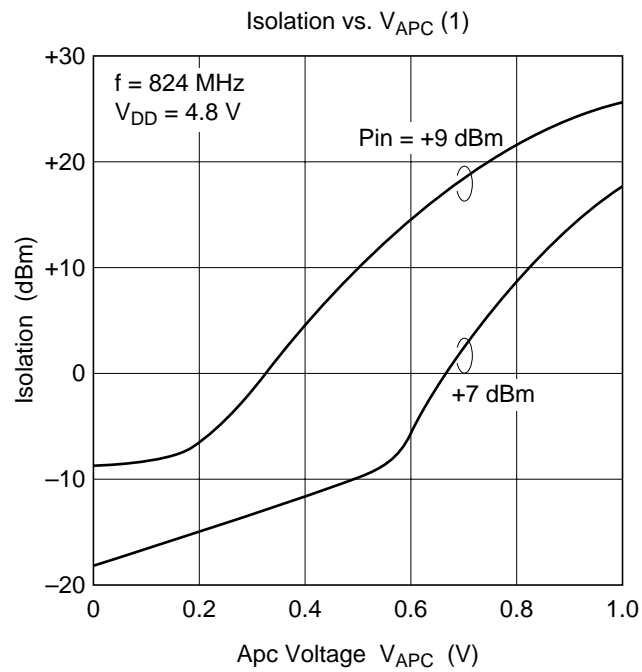
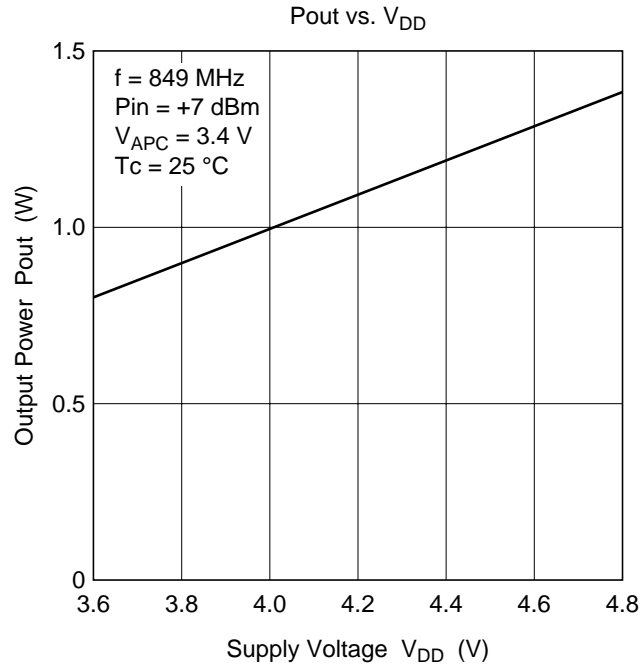
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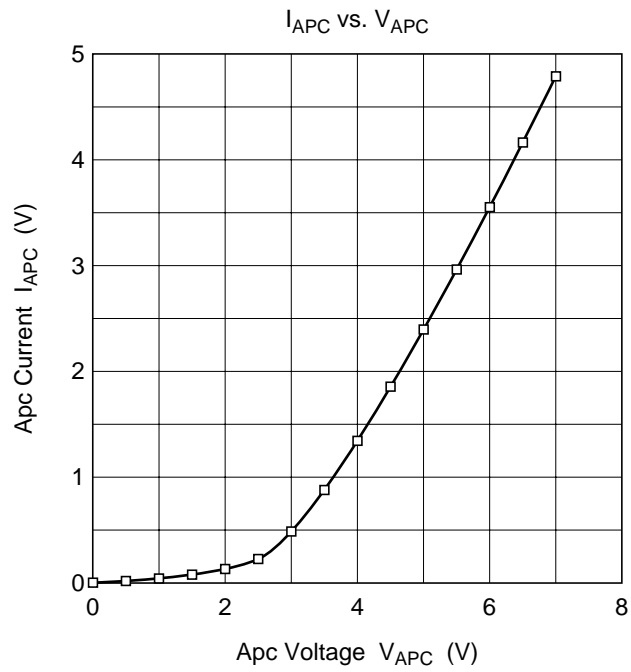
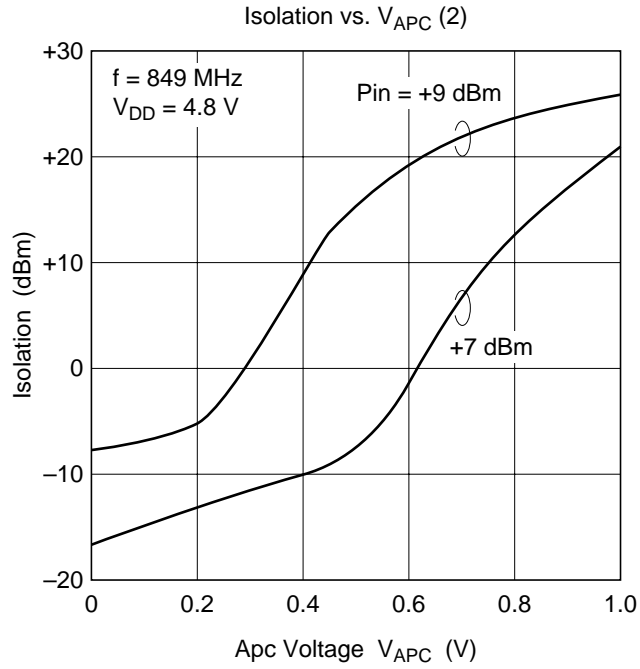
Characteristics Curve





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Package Dimensions

Unit: mm

