
PF00105A

MOS FET Power Amplifier Module for AMPS Handy Phone

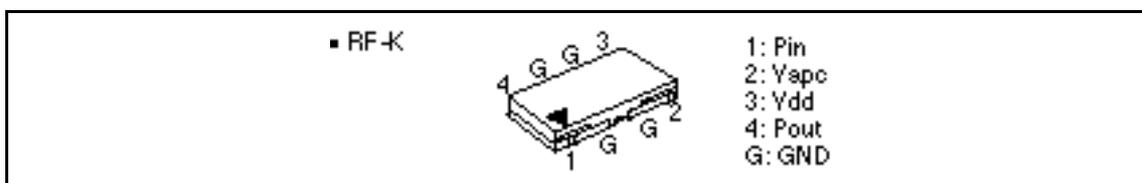
HITACHI

ADE-208-447C (Z)
4th Edition
December 1997

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)

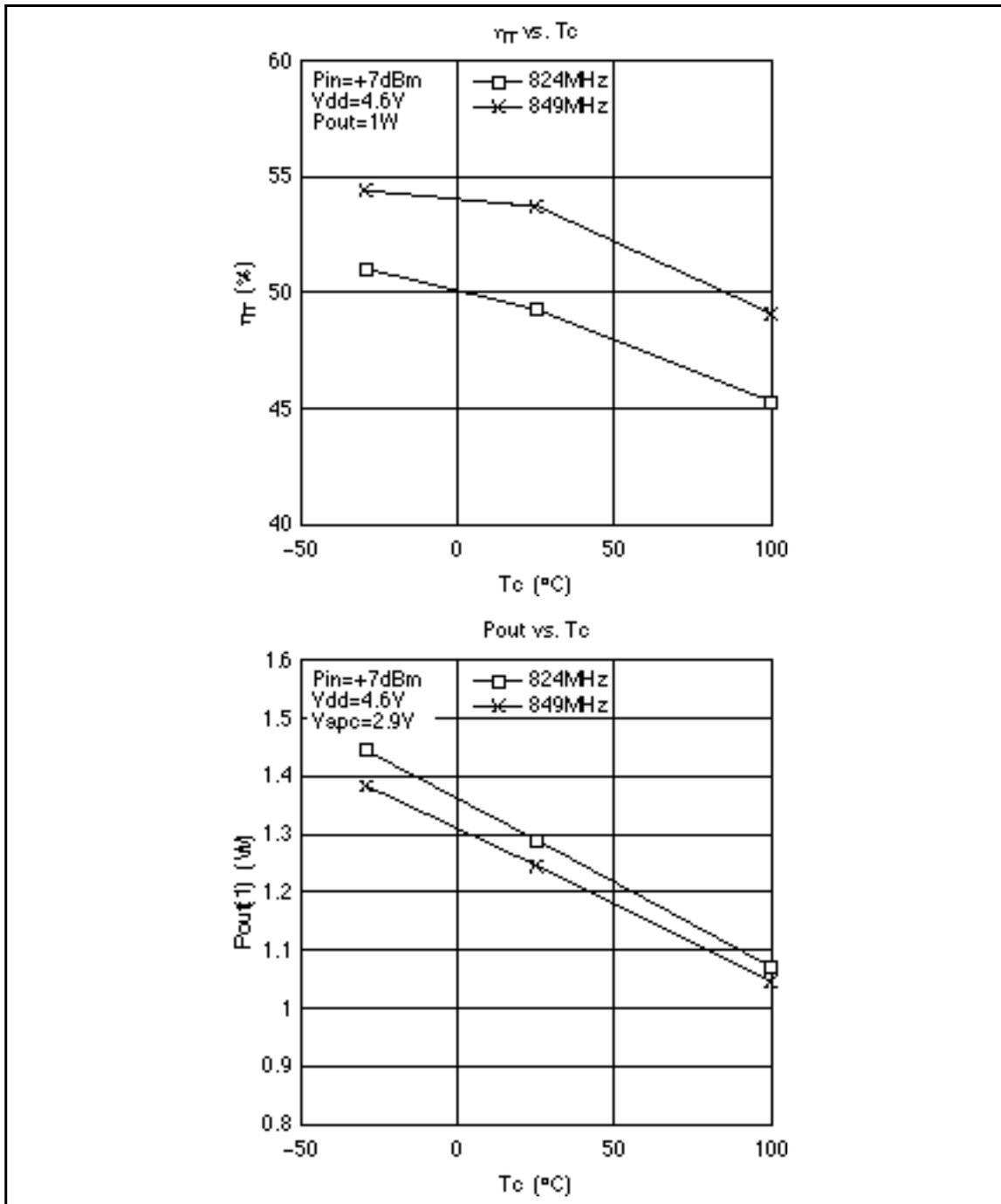
Item	Symbol	Rating	Unit
Supply voltage	V _{DD}	10	V
Supply current	I _{DD}	1	A
V _{APC} voltage	V _{APC}	4.5	V
Input power	P _{in}	20	mW
Operating case temperature	T _c (op)	-30 to +100	°C
Storage temperature	T _{stg}	-30 to +100	°C
Output power	P _{out}	2	W

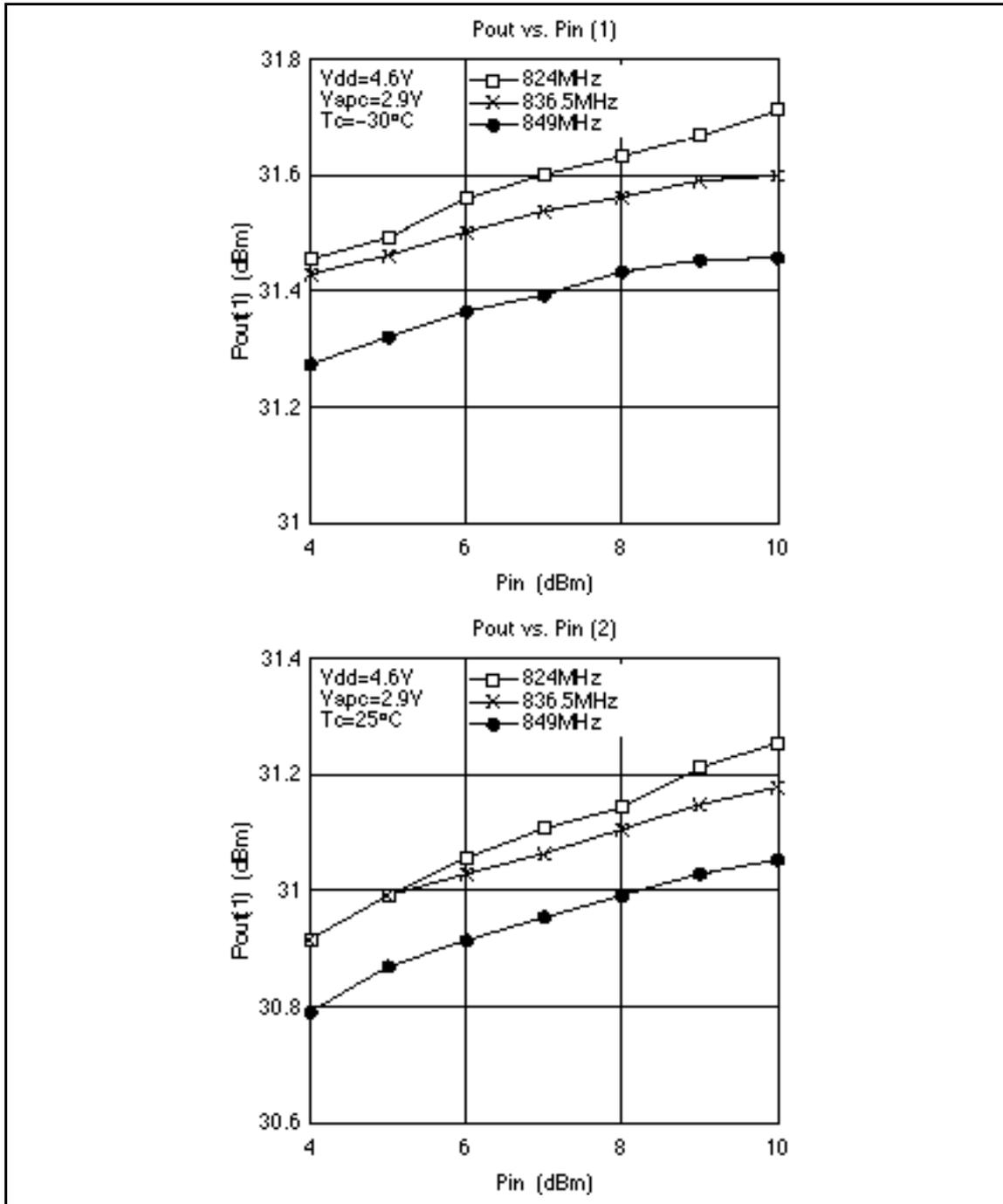
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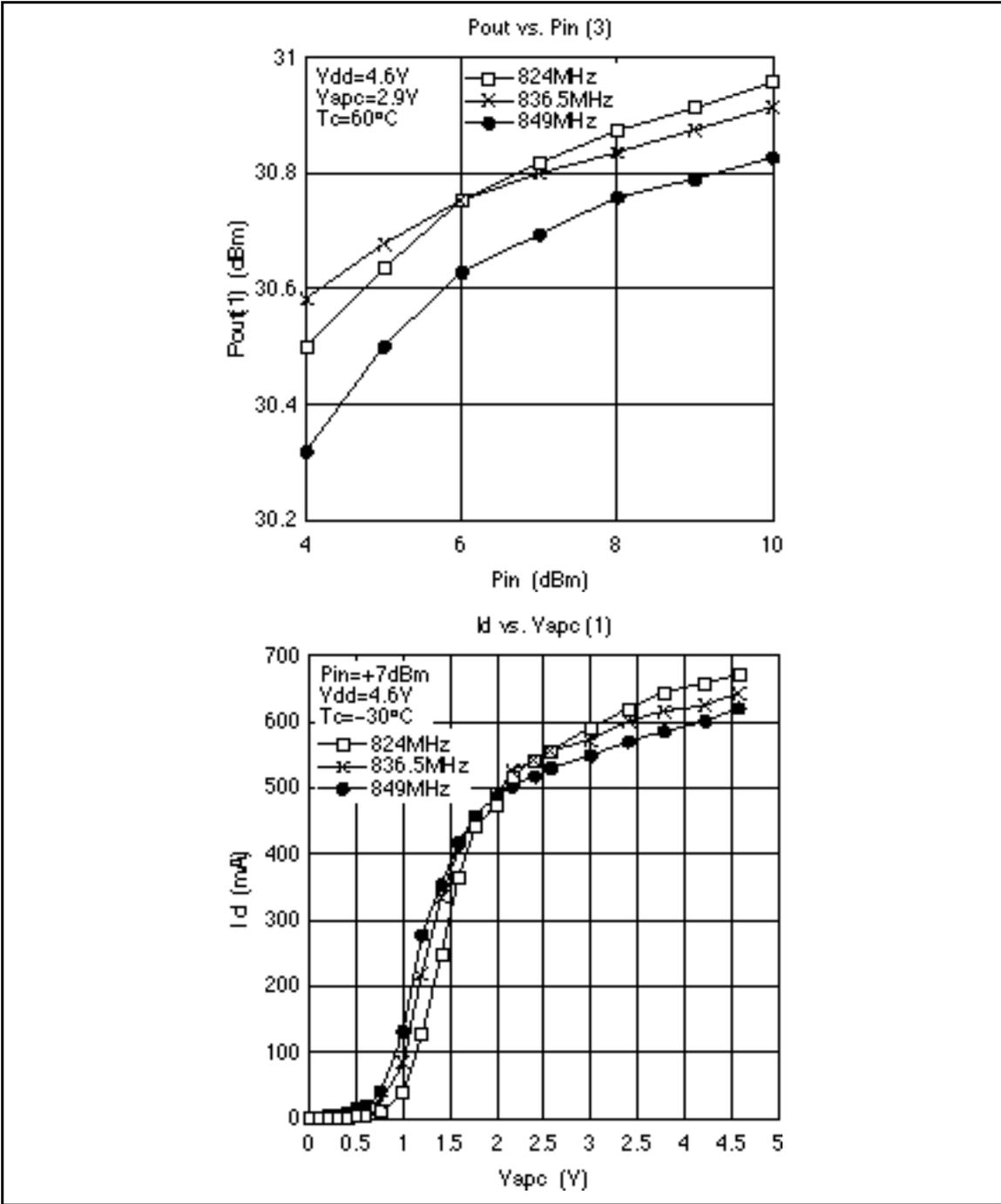
Electrical Characteristics (Tc = 25°C)

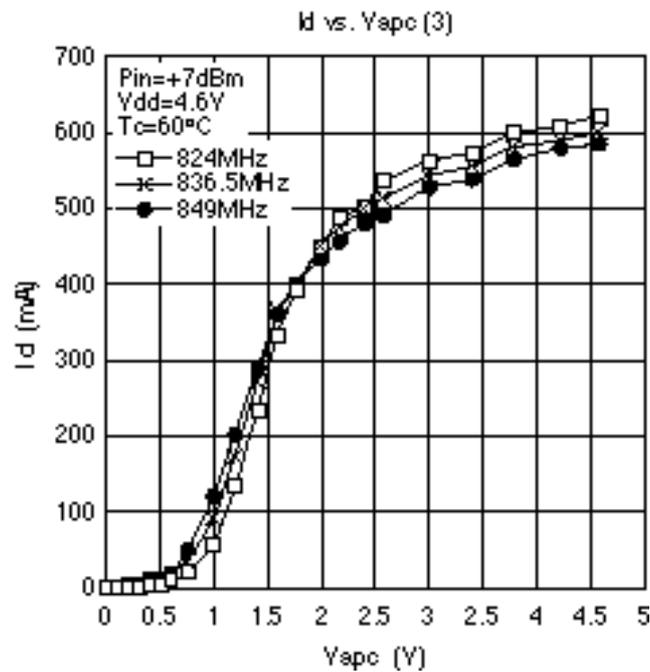
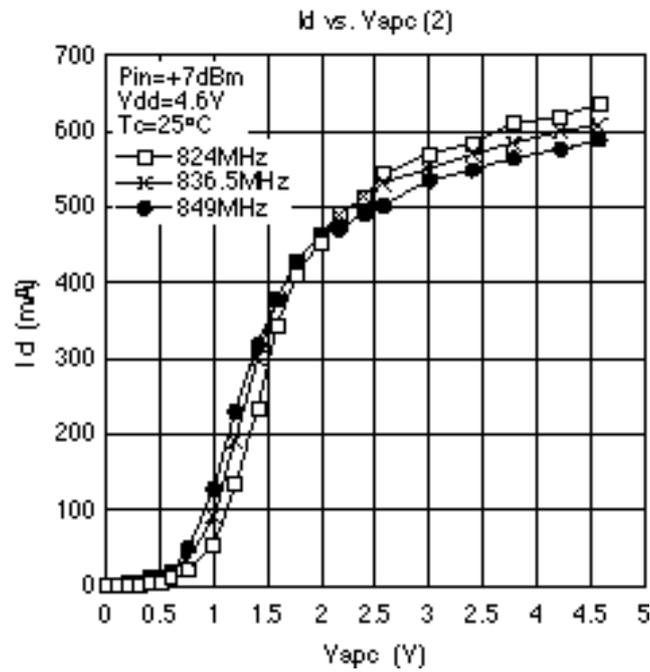
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Frequency range	f	824	—	849	MHz	—
Drain cutoff current	I _{DS}	—	—	20	μA	V _{DD} = 7 V, V _{APC} = 0 V
Total efficiency	τ	45	48	—	%	Pin = +8 dBm, V _{DD} = 4.6 V,
2nd harmonic distortion	2nd H.D.	—	-40	-30	dBc	Pout = 1 W (at APC controlled)
3rd harmonic distortion	3rd H.D.	—	-40	-30	dBc	R _L = R _g = 50 Ω, Tc = 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 = 50 Ω, Tc = 25°C
Isolation	—	—	-20	+6	dBm	Pin = +8 dBm, V _{DD} = 4.6 V, V _{APC} = 0.1 V, R _L = R _g = 50 Ω, Tc = 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, Tc = 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, Tc = 25°C, Output VSWR = 10 : 1 All phases

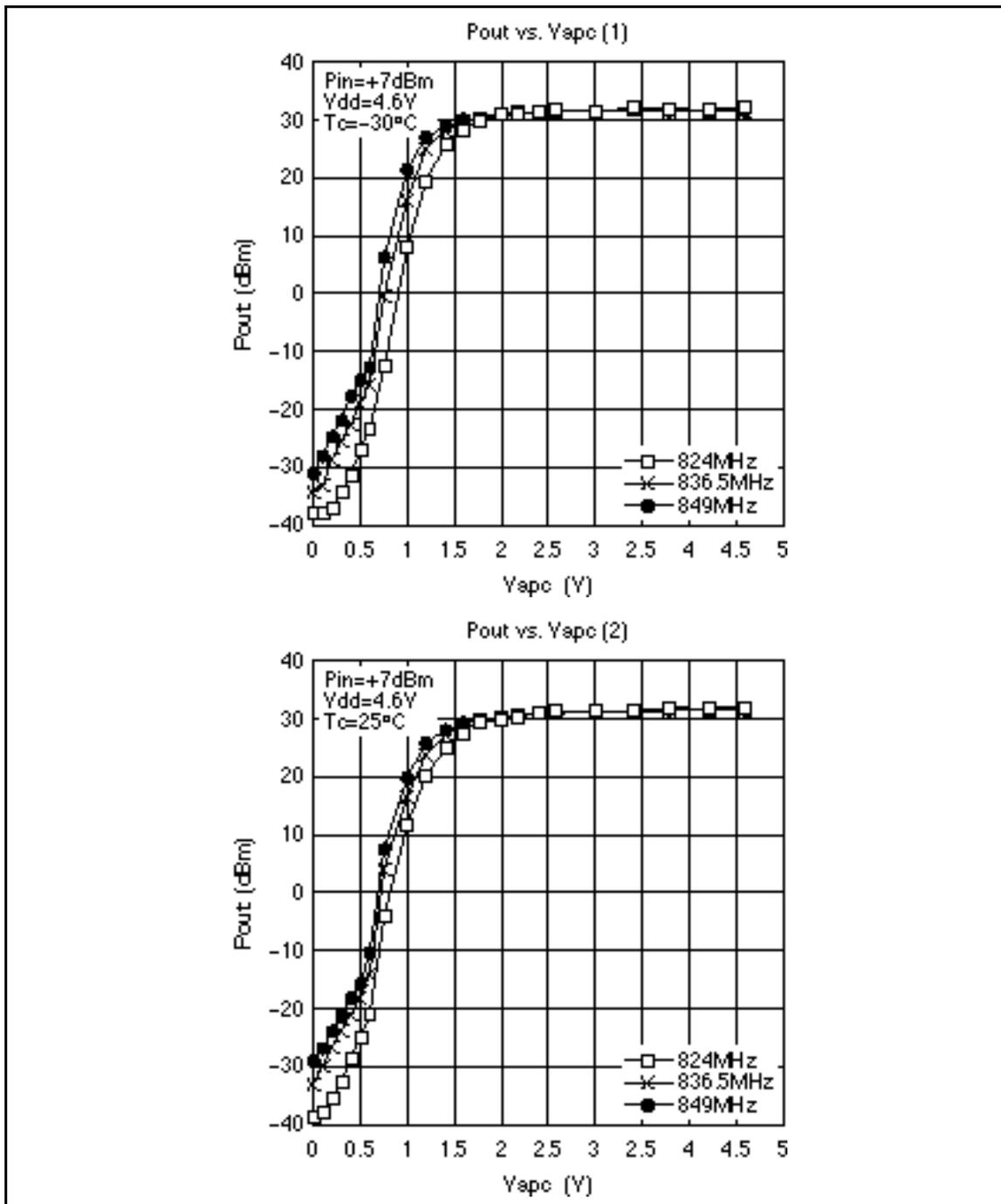
Characteristic Curves

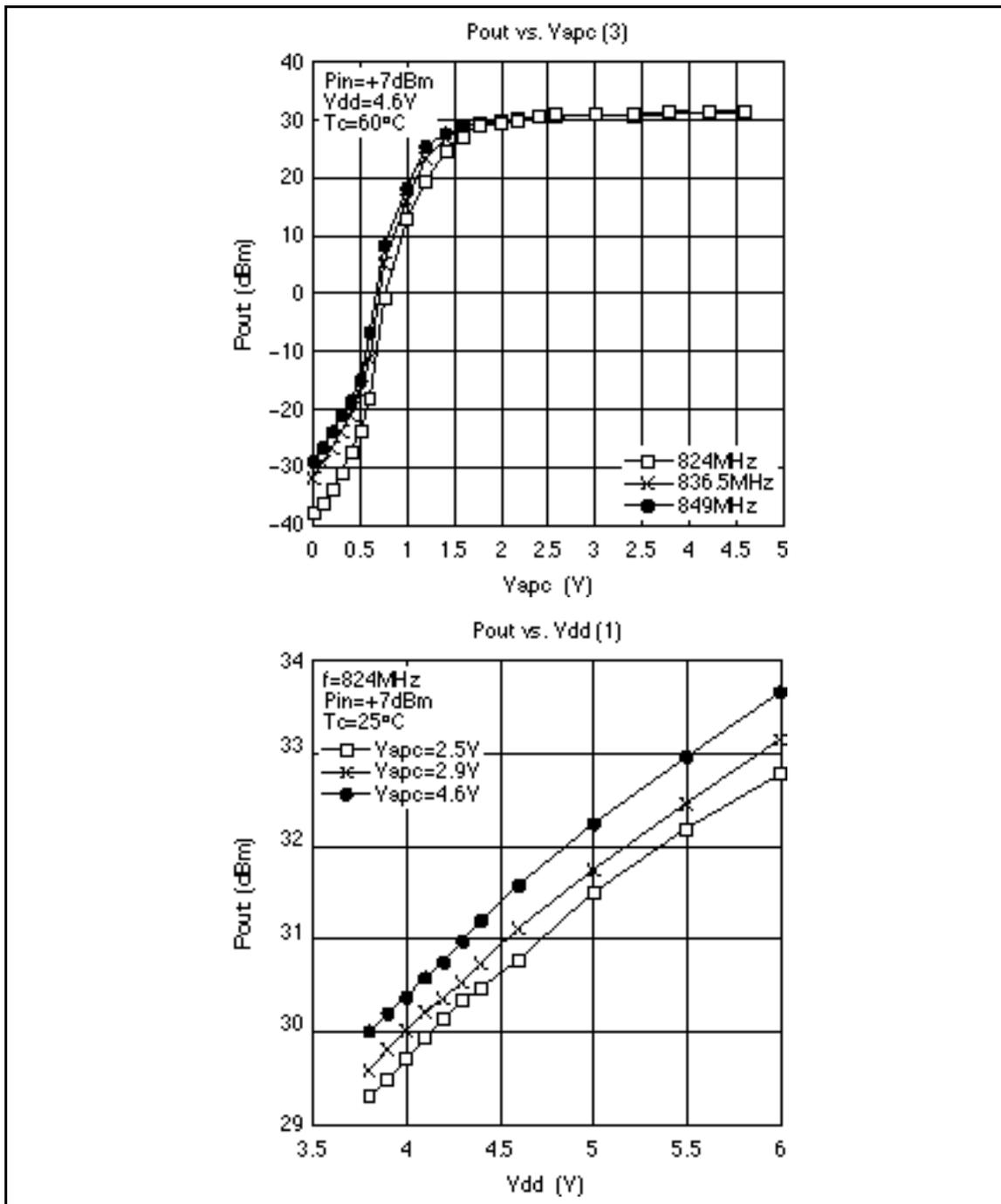


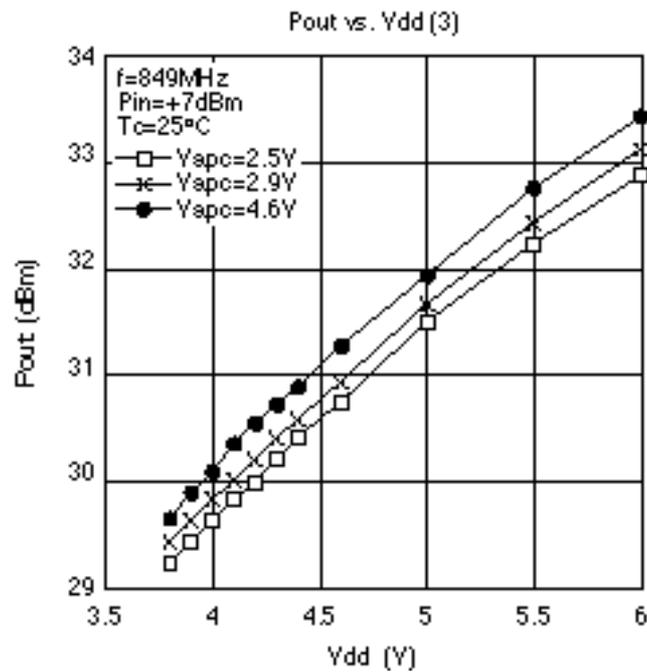
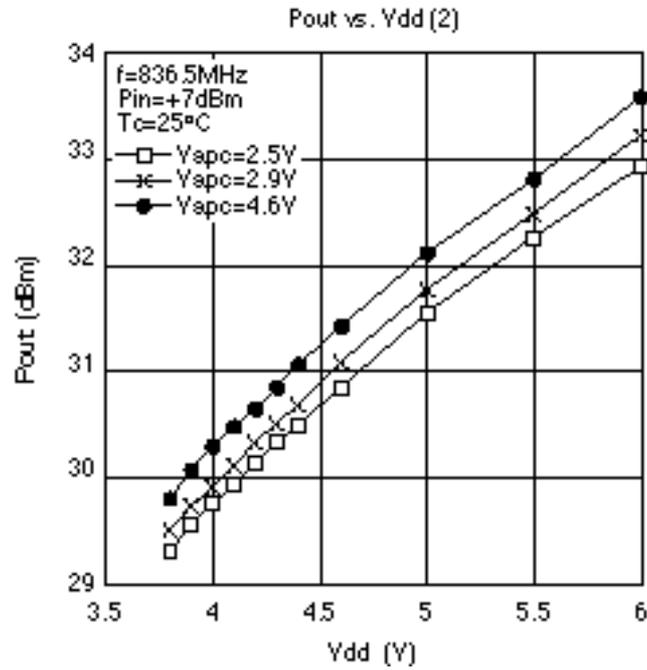






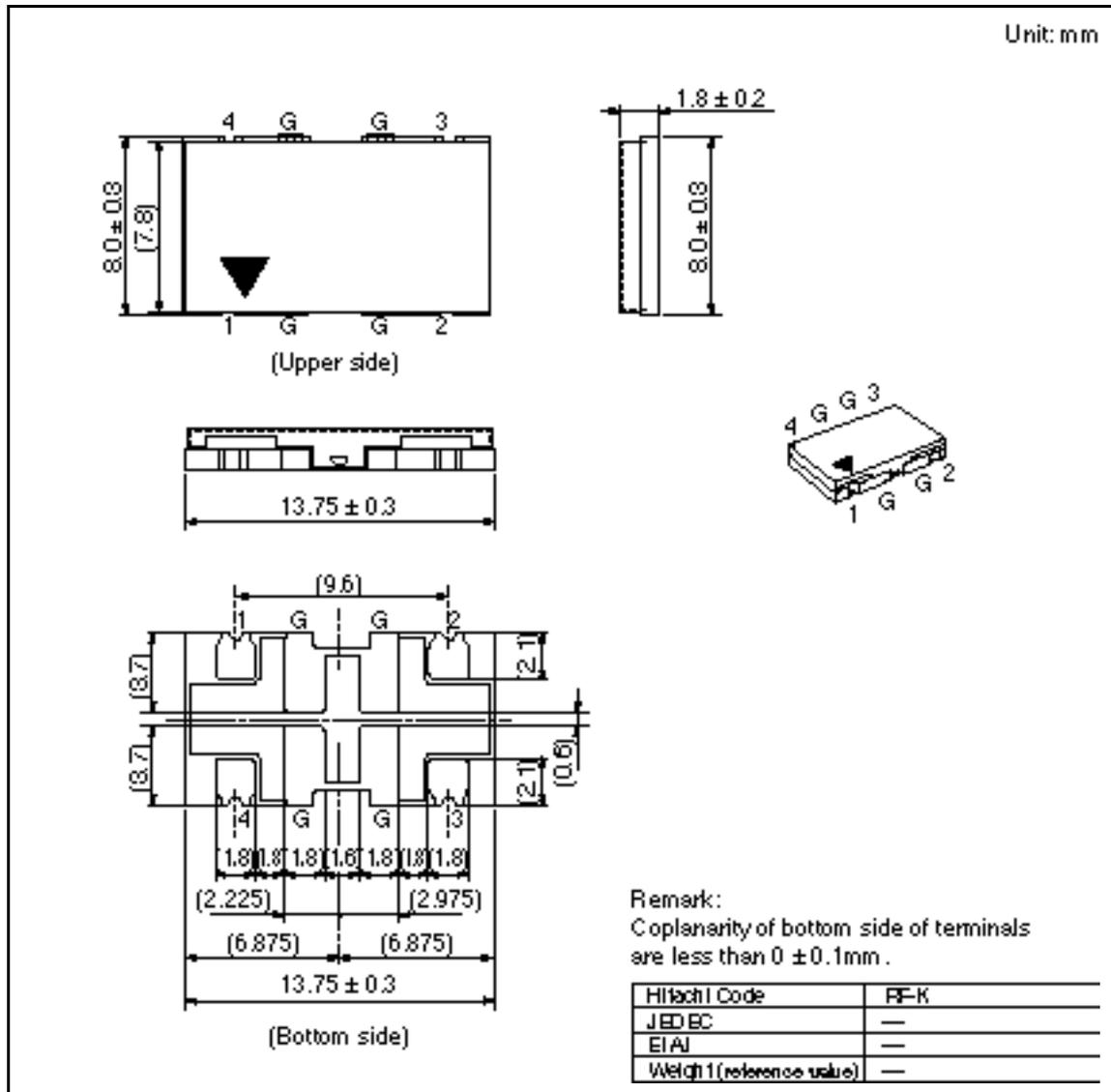






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Package Dimensions



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HITACHI

Hitachi, Ltd.

Semiconductor & IC Div.
Nippon Bldg., 2-6-2, Ohit-machi, Chiyoda-ku, Tokyo 100, Japan
Tel: Tokyo (03) 8270-2111
Fax: (03) 8270-5109

For further information contact:

Hitachi America, Ltd.
Semiconductor & IC Div.
2000 Sierra Point Parkway
Brisbane, CA 94005-1885
U.S.A.
Tel: 415-589-8900
Fax: 415-588-4207

Hitachi Europe GmbH
Electronic Components Group
Continental Europe
Domacher StraÙe 8
D-85622 Feldkirchen
München
Tel: 089-9 31 80-0
Fax: 089-9 29 80 00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maldenhead
Berkshire SL6 8YA
United Kingdom
Tel: 0628-585000
Fax: 0628-778822

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 0104
Tel: 585-2100
Fax: 585-1588

Hitachi Asia (Hong Kong) Ltd.
Unit 706, North Tower,
World Finance Centre,
Harbour City Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: 27859218
Fax: 27806071

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