
PF01412A

MOS FET Power Amplifier Module for E-GSM Handy Phone

HITACHI

ADE-208-477B (Z)
3rd Edition
February 1, 1997

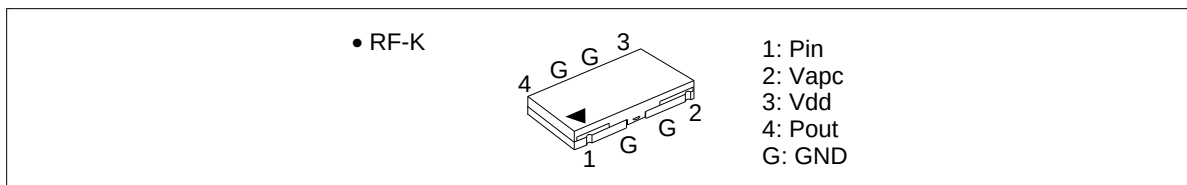
Application

- For GSM class4 890 to 915 MHz
- For 5.5V nominal DC/DC converter use

Features

- High gain 3stage amplifier : 0 dBm input
- Lead less thin & Small package : 2 mm Max, 0.2cc
- High efficiency : 45% Typ at 3.8 W
- Wide gain control range : 90 dB Typ

Pin Arrangement



Absolute Maximum Ratings (Tc = 25°C)

Item	Symbol	Rating	Unit
Supply voltage	V _{DD}	10	V
Supply current	I _{DD}	3	A
V _{APC} voltage	V _{APC}	4	V
Input power	Pin	10	mW
Operating case temperature	Tc (op)	−30 to +100	°C
Storage temperature	Tstg	−30 to +100	°C
Output power	Pout	6	W

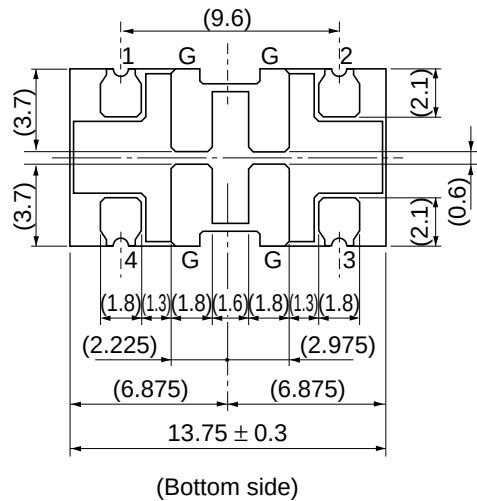
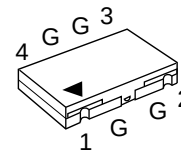
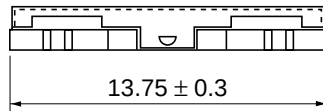
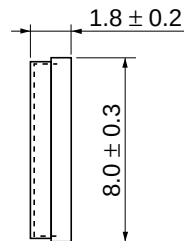
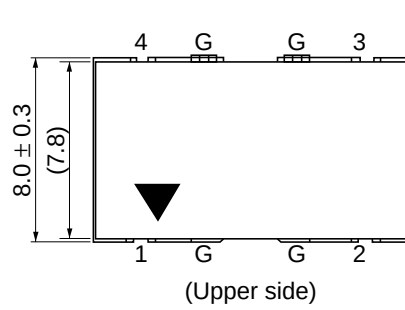
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Electrical Characteristics (T_c = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Frequency range	f	890	—	915	MHz	
Control voltage range	V _{APC}	0.5	—	3.0	V	
Drain cutoff current	I _{DS}	—	—	100	μA	V _{DD} = 10 V, V _{APC} = 0 V
Total efficiency	η _T	40	45	—	%	Pin = 1 mW, V _{DD} = 5.5 V,
2nd harmonic distortion	2nd H.D.	—	−45	−35	dBc	Pout = 3.8 W, Vapc = controlled
3rd harmonic distortion	3rd H.D.	—	−45	−35	dBc	R _L = R _g = 50 Ω, T _c = 25°C
Input VSWR	VSWR (in)	—	1.5	3	—	
Output power (1)	Pout (1)	3.8	4.5	—	W	Pin = 1 mW, V _{DD} = 5.5 V, V _{APC} = 3.0 V, R _L = R _g = 50 Ω, T _c = 25°C
Output power (2)	Pout (2)	2.5	3.2	—	W	Pin = 1 mW, V _{DD} = 5.0 V, V _{APC} = 3.0 V, R _L = R _g = 50 Ω, T _c = 80°C
Isolation	—	—	−50	−40	dBm	Pin = 1 mW, V _{DD} = 5.5 V, V _{APC} = 0.5 V, R _L = R _g = 50 Ω, T _c = 25°C
Switching time	tr, tf	—	1	2	μs	Pin = 1 mW, V _{DD} = 5.5 V, Pout = 3.8 W, R _L = R _g = 50 Ω, T _c = 25°C
Stability & Load VSWR tolerance	—	No parasitic oscillation & No degradation			—	Pin = 1 mW, V _{DD} = 5 to 6 V, Pout ≤ 3.8 W, Vapc ≤ 3 V GSM pulse. R _g = 50 Ω, t = 20 sec., T _c = 25°C, Output VSWR = 6 : 1 All phases

Package Dimensions

Unit: mm



Remark:
Coplanarity of bottom side of terminals
are less than 0 ± 0.1 mm.

Hitachi Code	RF-K
JEDEC	—
EIAJ	—
Weight (reference value)	—

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HITACHI

Hitachi, Ltd.

Semiconductor & IC Div.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100, Japan
Tel: Tokyo (03) 3270-2111
Fax: (03) 3270-5109

For further information write to:

Hitachi America, Ltd.
Semiconductor & IC Div.
2000 Sierra Point Parkway
Brisbane, CA. 94005-1835
U S A
Tel: 415-589-8300
Fax: 415-583-4207

Hitachi Europe GmbH
Electronic Components Group
Continental Europe
Dornacher StraÙe 3
D-85622 Feldkirchen
M nchen
Tel: 089-9 91 80-0
Fax: 089-9 29 30 00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA
United Kingdom
Tel: 0628-585000
Fax: 0628-778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 0104
Tel: 535-2100
Fax: 535-1533

Hitachi Asia (Hong Kong) Ltd.
Unit 706, North Tower,
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: 27359218
Fax: 27306071

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