HITACHI

PF0148E

MOS FET Power Amplifier Module for GSM Handy Phone

HITACHI

ADE-208-386D (Z)
5th. Edition
June, 1996

Application

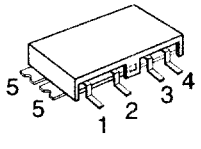
For GSM class4 890 to 915MHz.

Features

- 2stage amplifier
- Small package: 0.6cc
- High efficiency: 45% Typ
- High speed switching: 0.9µsec

Pin Arrangement

• RF-H1



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

Absolute Maximum Ratings (Tc = 25°C)

Item	Symbol	Rating	Unit
Supply voltage	VDD	10	V
Supply current	IDD	3	A
VAPC voltage	VAPC	3.5	V
Input power	Pin	20	mW
Operating case temperature	Tc (op)	–30 to +100	°C
Storage temperature	Tstg	–30 to +100	°C

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Electrical Characteristics (Tc = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Frequency range	f	890	—	915	MHz	
Control voltage range	VAPC	0.0	—	3.5	V	
Drain cutoff current	IDS	—	—	100	μA	VDD = 10V, VAPC = 0V
Total efficiency	ηT	37	—	—	%	Pin = 5mW, VDD = 6V,
2nd harmonic distortion	2nd H.D.	—	—	–40	dBc	Pout = 2.8W (at APC controlled),
3rd harmonic distortion	3rd H.D.	—	—	–40	dBc	RL = Rg = 50Ω, Tc = 25°C
Input VSWR	VSWR (in)	—	—	3	—	
Output power (1)	Pout (1)	3.2	—	—	W	Pin = 5mW, VDD = 6V, VAPC = 3.5V, RL = Rg = 50Ω, Tc = 25°C
Output power (2)	Pout (2)	1.8	—	—	W	Pin = 5mW, VDD = 5.4V, VAPC = 3.5V, RL = Rg = 50Ω, Tc = 80°C
Isolation	—	—	—	–15	dBm	Pin = 7mW, VDD = 6V, VAPC = 0V, RL = Rg = 50Ω, Tc = 25°C
Switching time	tr, tf	—	—	2	μs	Pin = 5mW, VDD = 6V, Pout = 3.2W, RL = Rg = 50Ω, Tc = 25°C
Stability	—	No parasitic oscillation			—	Pin = 5mW, VDD = 7.5V, Pout ≤ 3.2W (at APC controlled), Rg = 50Ω, t = 20sec., Tc = 25°C, Output VSWR = 10 : 1 All phases

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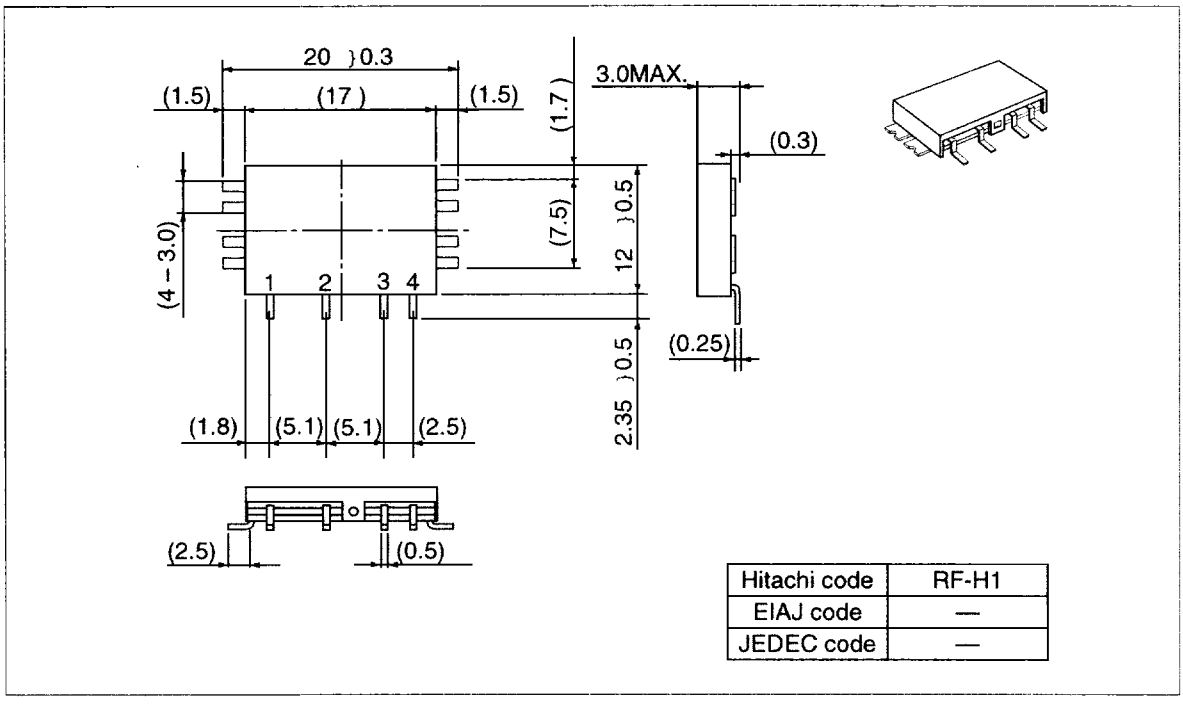
Package Dimensions

Unit: mm



Hitachi code	RF-H1
EIAJ code	—
JEDEC code	—