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# PF0348 Series

MOS FET Power Amplifier Module  
for UHF Band

# HITACHI

ADE-208-343C (Z)  
4th. Edition  
December, 1996

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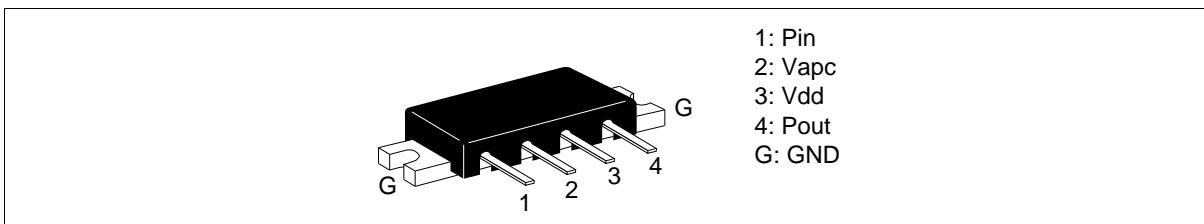
## Features

- Small package:  $30 \times 10 \times 5.9\text{mm}$
- Low operation voltage: 7W at 7.2V
- Low power control current: 200 $\mu\text{A}$  Typ

## Ordering Infomation

Type. name	Operating frequency
PF0348	330 to 360MHz
PF0349	400 to 430MHz
PF0350	440 to 470MHz
PF0351	470 to 490MHz
PF0352	490 to 520MHz
PF0353	360 to 380MHz

## Pin Arrangement



## PF0348 Series

### Absolute Maximum Ratings (Tc = 25°C)

Item	Symbol	Rating	Unit
Supply voltage	V <sub>DD</sub>	17	V
Supply current	I <sub>DD</sub>	3	A
PC voltage	V <sub>PC</sub>	7	V
Input power	Pin	100	mW
Operating case temperature	Tc (op)	–30 to +100	°C
Storage temperature	Tstg	–40 to +110	°C

### PF0348 Electrical Characteristics (Tc = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Drain cutoff current	I <sub>DS</sub>	—	—	100	μA	V <sub>DD</sub> = 17V, V <sub>PC</sub> = 0V, R <sub>L</sub> = Rg = 50Ω
Total efficiency	η <sub>T</sub>	35	38	—	%	Pin = 50mW, V <sub>DD</sub> = 7.2V,
2nd harmonic distortion	2nd H.D.	—	–25	–20	dBc	Pout = 6.8W (at Vpc controlled),
3rd harmonic distortion	3rd H.D.	—	–35	–30	dBc	R <sub>L</sub> = Rg = 50Ω, Tc = 25°C
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	Pout (1)	6.8	7.5	—	W	Pin = 50mW, V <sub>DD</sub> = 7.2V, V <sub>PC</sub> = 6.0V, R <sub>L</sub> = Rg = 50Ω
Output power (2)	Pout (2)	4.0	5.0	—	W	Pin = 50mW, V <sub>DD</sub> = 6.0V, V <sub>PC</sub> = 5.5V, R <sub>L</sub> = Rg = 50Ω
Load VSWR tolerance	—	No degradation			—	Pin = 50mW, V <sub>DD</sub> = 15V, Pout ≤ 6.8W (at Vpc controlled), Output VSWR = 6 : 1 All phases
Stability	—	No parasitic oscillation			—	Pin = 50mW, V <sub>DD</sub> = 6 to 15V, Pout ≤ 6.8W (at Vpc controlled), Output VSWR = 6 : 1 All phases

**PF0349/50/51/52/53 Electrical Characteristics (Tc = 25°C)**

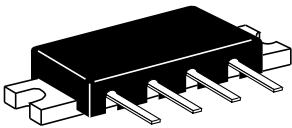
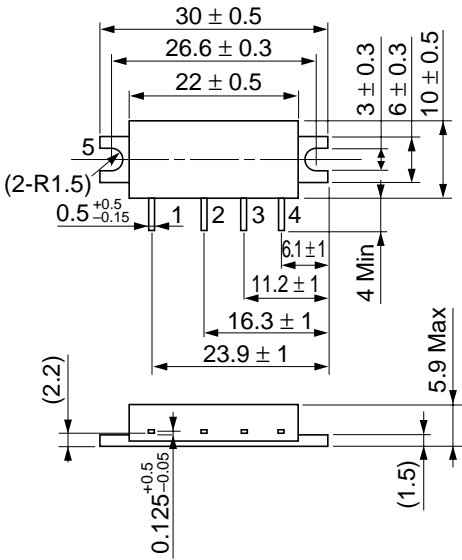
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Drain cutoff current	$I_{DS}$	—	—	100	$\mu A$	$V_{DD} = 17V$ , $V_{PC} = 0V$ , $R_L = R_g = 50\Omega$
Total efficiency	$\eta_T$	35	38	—	%	$P_{in} = 50mW$ , $V_{DD} = 7.2V$ ,
2nd harmonic distortion	2nd H.D.	—	-30	-25	dBc	$P_{out} = 7W$ (at $V_{pc}$ controlled),
3rd harmonic distortion	3rd H.D.	—	-60	-40	dBc	$R_L = R_g = 50\Omega$ , $T_c = 25^\circ C$
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	$P_{out} (1)$	7.0	8.0	—	W	$P_{in} = 50mW$ , $V_{DD} = 7.2V$ , $V_{PC} = 6.0V$ , $R_L = R_g = 50\Omega$
Output power (2)	$P_{out} (2)$	4.0	5.0	—	W	$P_{in} = 50mW$ , $V_{DD} = 6.0V$ , $V_{PC} = 5.5V$ , $R_L = R_g = 50\Omega$
Load VSWR tolerance	—	No degradation			—	$P_{in} = 50mW$ , $V_{DD} = 15V$ , $P_{out} \leq 7W$ (at $V_{pc}$ controlled), Output VSWR = 6 : 1 All phases
Stability	—	No parasitic oscillation			—	$P_{in} = 50mW$ , $V_{DD} = 6$ to $15V$ , $P_{out} \leq 7W$ (at $V_{pc}$ controlled), Output VSWR = 6 : 1 All phases

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PF0348 Series

Package Dimensions

Unit: mm



Hitachi Code	RF-J
JEDEC Code	—
EIAJ Code	—
Weight	—

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