

PF0348 Series

MOS FET Power Amplifier Module
for UHF Band

HITACHI

ADE-208-343C (Z)
3rd. Edition
December, 1996

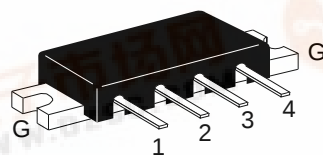
Features

- 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



1: Pin
2: Vapc
3: Vdd
4: Pout
G: GND

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Absolute Maximum Ratings (T_c = 25°C)

Item	Symbol	Rating	Unit
Supply voltage	VDD	17	V
Supply current	IDD	3	A
PC voltage	VPC	7	V
Input power	Pin	100	mW
Operating case temperature	T _c (op)	−30 to +100	°C
Storage temperature	T _{stg}	−40 to +110	°C

PF0348 Electrical Characteristics (T_c = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Drain cutoff current	IDS	—	—	100	μA	VDD = 17V, VPC = 0V, RL = Rg = 50Ω
Total efficiency	η _T	35	38	—	%	Pin = 50mW, VDD = 7.2V, Pout = 6.8W (at V _{pc} controlled), RL = Rg = 50Ω, T _c = 25°C
2nd harmonic distortion	2nd H.D.	—	−25	−20	dBc	
3rd harmonic distortion	3rd H.D.	—	−35	−30	dBc	
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	Pout (1)	6.8	7.5	—	W	Pin = 50mW, VDD = 7.2V, VPC = 6.0V, RL = Rg = 50Ω
Output power (2)	Pout (2)	4.0	5.0	—	W	Pin = 50mW, VDD = 6.0V, VPC = 5.5V, RL = Rg = 50Ω
Load VSWR tolerance	—	No degradation			—	Pin = 50mW, VDD = 15V, Pout ≤ 6.8W (at V _{pc} controlled), Output VSWR = 6 : 1 All phases
Stability	—	No parasitic oscillation			—	Pin = 50mW, VDD = 6 to 15V, Pout ≤ 6.8W (at V _{pc} controlled), Output VSWR = 6 : 1 All phases

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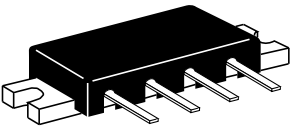
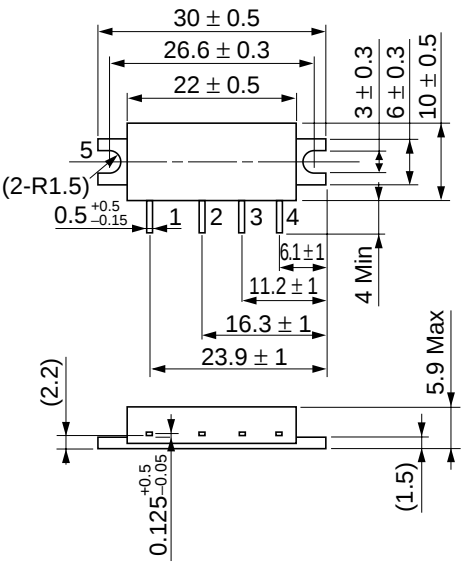
PF0349/50/51/52/53 Electrical Characteristics (T_c = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Drain cutoff current	I _{DS}	—	—	100	μA	V _{DD} = 17V, V _{PC} = 0V, R _L = R _g = 50Ω
Total efficiency	η _T	35	38	—	%	Pin = 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 = 50Ω, T _c = 25°C
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	P _{out} (1)	7.0	8.0	—	W	Pin = 50mW, V _{DD} = 7.2V, V _{PC} = 6.0V, R _L = R _g = 50Ω
Output power (2)	P _{out} (2)	4.0	5.0	—	W	Pin = 50mW, V _{DD} = 6.0V, V _{PC} = 5.5V, R _L = R _g = 50Ω
Load VSWR tolerance	—	No degradation			—	Pin = 50mW, V _{DD} = 15V, P _{out} ≤ 7W (at V _{pc} controlled), Output VSWR = 6 : 1 All phases
Stability	—	No parasitic oscillation			—	Pin = 50mW, V _{DD} = 6 to 15V, P _{out} ≤ 7W (at V _{pc} controlled), Output VSWR = 6 : 1 All phases

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Package Dimensions

Unit: mm



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