
PF0348 Series

MOS FET Power Amplifier Module
for UHF Band

HITACHI

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

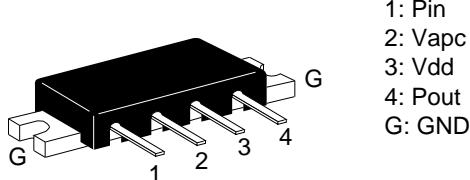
Features

- Small package:30 × 10 × 5.9mm
- Low operation voltage: 7W at 7.2V
- Low power control current: 200μA 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 _{DD}	17	V
Supply current	I _{DD}	3	A
PC voltage	V _{PC}	7	V
Input power	P _{in}	100	mW
Operating case temperature	T _c (op)	−30 to +100	°C
Storage temperature	T _{stg}	−40 to +110	°C

PF0348 Electrical Characteristics (Tc = 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	—	%	P _{in} = 50mW, V _{DD} = 7.2V,
2nd harmonic distortion	2nd H.D.	—	−25	−20	dBc	P _{out} = 6.8W (at V _{PC} controlled),
3rd harmonic distortion	3rd H.D.	—	−35	−30	dBc	R _L = R _g = 50Ω, T _c = 25°C
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	P _{out} (1)	6.8	7.5	—	W	P _{in} = 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	P _{in} = 50mW, V _{DD} = 6.0V, V _{PC} = 5.5V, R _L = R _g = 50Ω
Load VSWR tolerance	—	No degradation			—	Pin = 50mW, V _{DD} = 15V, Pout ≤ 6.8W (at V _{PC} controlled), Output VSWR = 6 : 1 All phases
Stability	—	No parasitic oscillation			—	Pin = 50mW, V _{DD} = 6 to 15V, Pout ≤ 6.8W (at V _{PC} controlled), Output VSWR = 6 : 1 All phases

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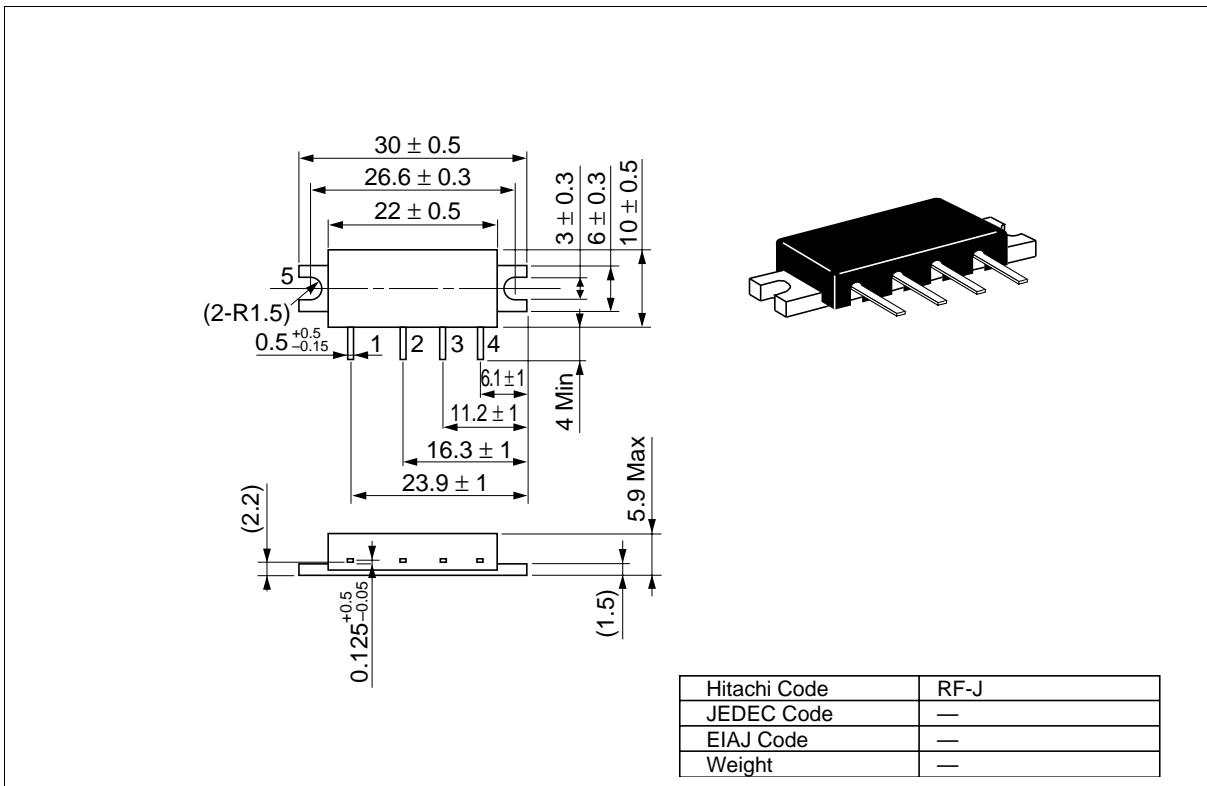
PF0349/50/51/52/53 Electrical Characteristics (Tc = 25°C)

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	Pout = 7W (at V _{PC} controlled),
3rd harmonic distortion	3rd H.D.	—	-60	-40	dBc	R _L = R _g = 50Ω, Tc = 25°C
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	Pout (1)	7.0	8.0	—	W	Pin = 50mW, V _{DD} = 7.2V, V _{PC} = 6.0V, R _L = R _g = 50Ω
Output power (2)	Pout (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, Pout ≤ 7W (at V _{PC} controlled), Output VSWR = 6 : 1 All phases
Stability	—	No parasitic oscillation			—	Pin = 50mW, V _{DD} = 6 to 15V, Pout ≤ 7W (at V _{PC} controlled), Output VSWR = 6 : 1 All phases

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Package Dimensions

Unit: mm



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