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# PF0340A

MOS FET Power Amplifier Module for UHF Band

## HITACHI

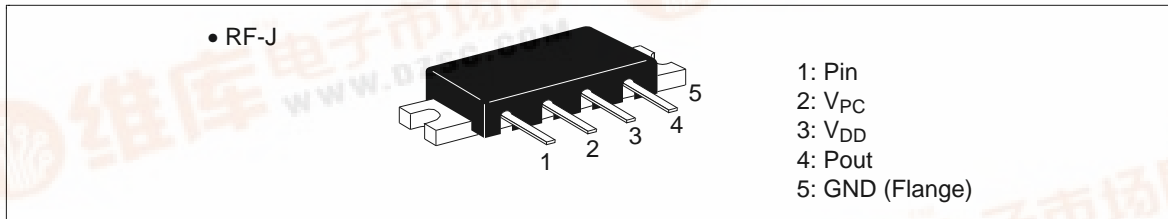
ADE-208-317B (Z)  
3rd Edition  
July 1996

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### Features

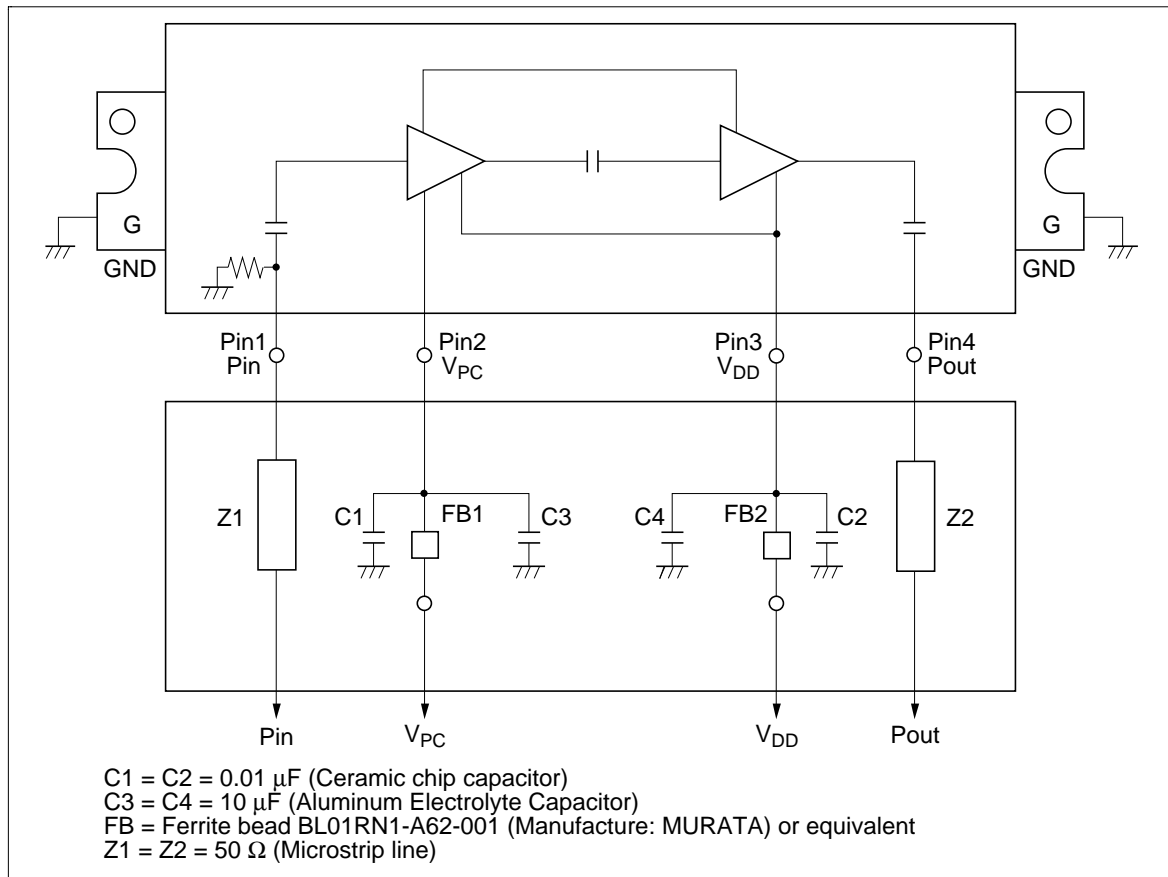
- Small package: 30 × 10 × 5.9 mm
- High efficiency: 43% Typ at 9.6 V  
40% Typ at 4.8 V
- Low power control current: 150  $\mu$ A Typ

### Pin Arrangement



## PF0340A

### Internal Diagram and External Circuit



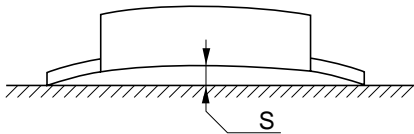
### Absolute Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
Supply voltage	$V_{DD}$	17	V
Supply current	$I_{DD}$	3	A
PC voltage	$V_{PC}$	4.5	V
Input power	Pin	50	mW
Operating case temperature	$T_c$ (op)	-30 to +100	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +110	$^\circ\text{C}$

**Electrical Characteristics** ( $T_c = 25^\circ\text{C}$ )

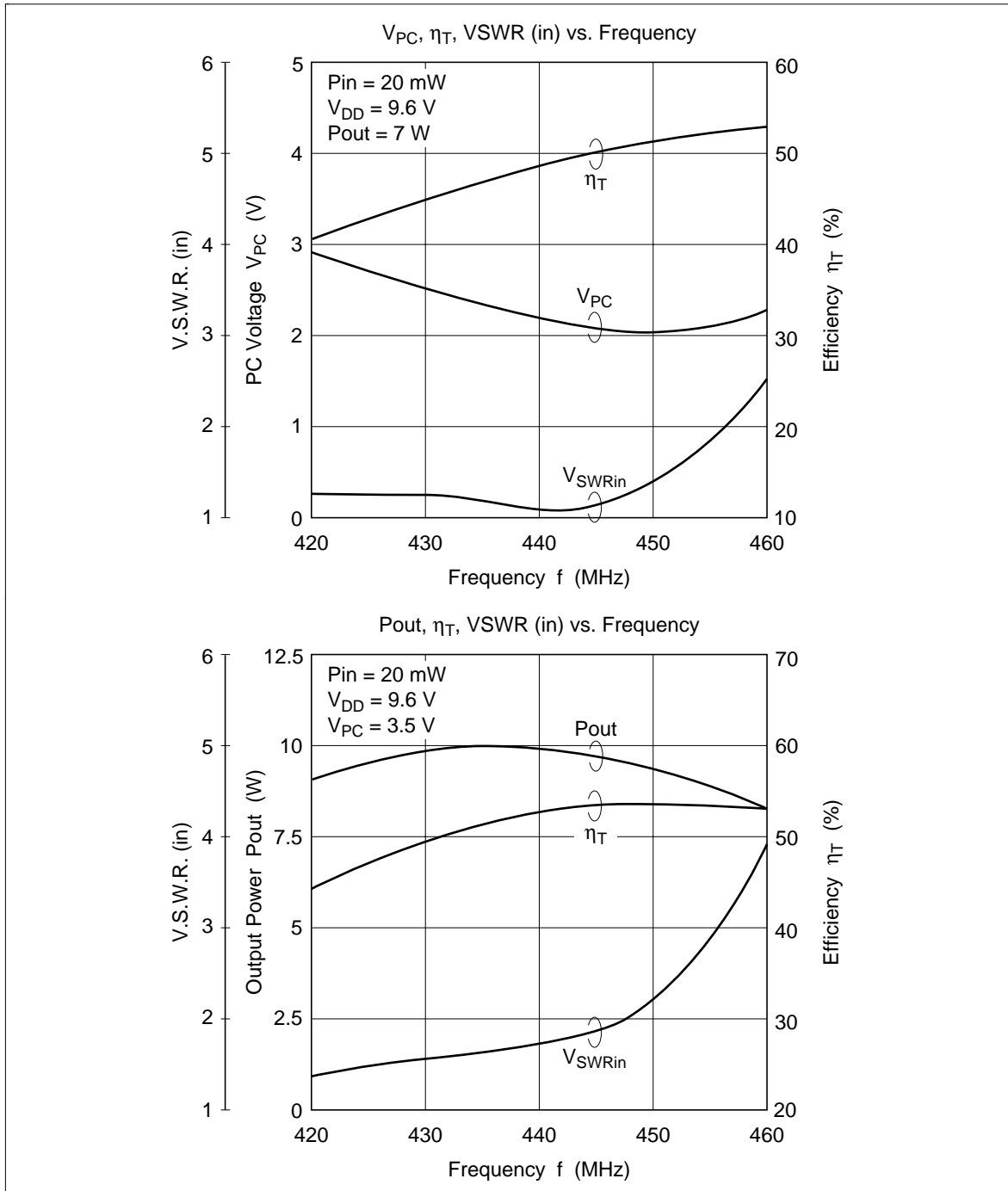
Item	Symbol	Min	Typ	Max	Unit	Test Condition
Frequency range	f	430	—	450	MHz	—
Drain cutoff current	$I_{DS}$	—	—	100	$\mu\text{A}$	$V_{DD} = 17\text{ V}$ , $V_{PC} = 0\text{ V}$ , $R_L = R_g = 50\ \Omega$ ,
Total efficiency	$\eta_T$	38	43	—	%	$P_{in} = 20\text{ mW}$ , $V_{DD} = 9.6\text{ V}$ ,
2nd harmonic distortion	2nd H.D.	—	-30	-25	dBc	$P_{out} = 7\text{ W}$ (at $V_{PC}$ controlled),
3rd harmonic distortion	3rd H.D.	—	-60	-40	dBc	$R_L = R_g = 50\ \Omega$ , $T_c = 25^\circ\text{C}$
Input VSWR	VSWR (in)	—	2.0	3.0	—	
Output power (1)	$P_{out}$ (1)	7	8	—	W	$P_{in} = 20\text{ mW}$ , $V_{DD} = 9.6\text{ V}$ , $V_{PC} = 3.5\text{ V}$ , $R_L = R_g = 50\ \Omega$
Output power (2)	$P_{out}$ (2)	1.8	2	—	W	$P_{in} = 20\text{ mW}$ , $V_{DD} = 4.8\text{ V}$ , $V_{PC} = 3.5\text{ V}$ , $R_L = R_g = 50\ \Omega$
Load VSWR tolerance	—	No degradation			—	$P_{in} = 20\text{ mW}$ , $V_{DD} = 15\text{ V}$ , $P_{out} \leq 7\text{ W}$ , (at $V_{PC}$ controlled), Output VSWR = 6:1 All phases
Stability	—	No parasitic oscillation			—	$P_{in} = 20\text{ mW}$ , $V_{DD} = 4.8\text{ to }15\text{ V}$ , $P_{out} \leq 7\text{ W}$ , (at $V_{PC}$ controlled), Output VSWR = 6:1 All phases

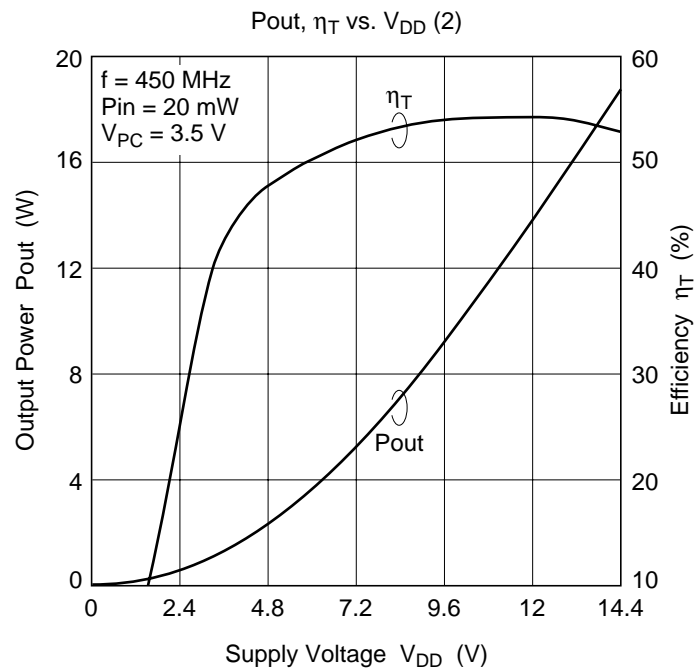
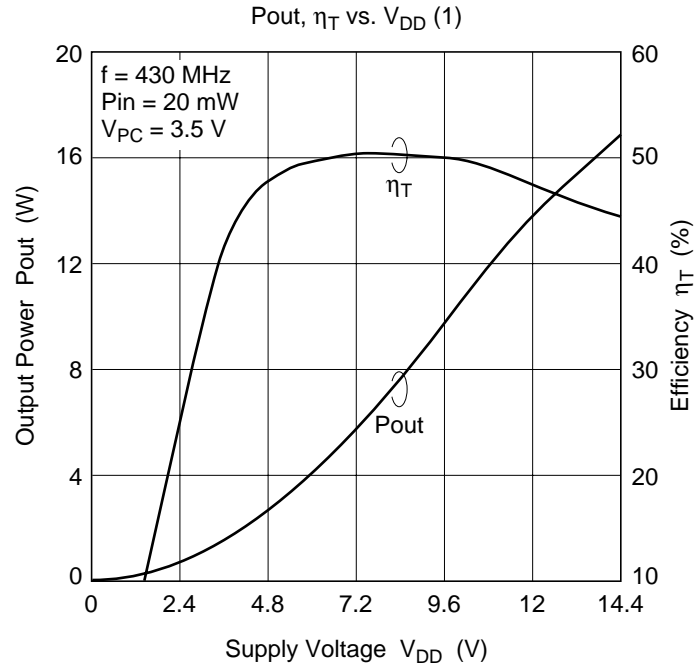
**Mechanical Characteristics**

Item	Measuring Conditions	Spec
Torque for screw up the heatsink flange	M2.6 Screw Bolts	1.5 to 3.5 kg•cm
Warp size of the heatsink flange: S		$S = 0$ $+0.1/-0\text{ mm}$

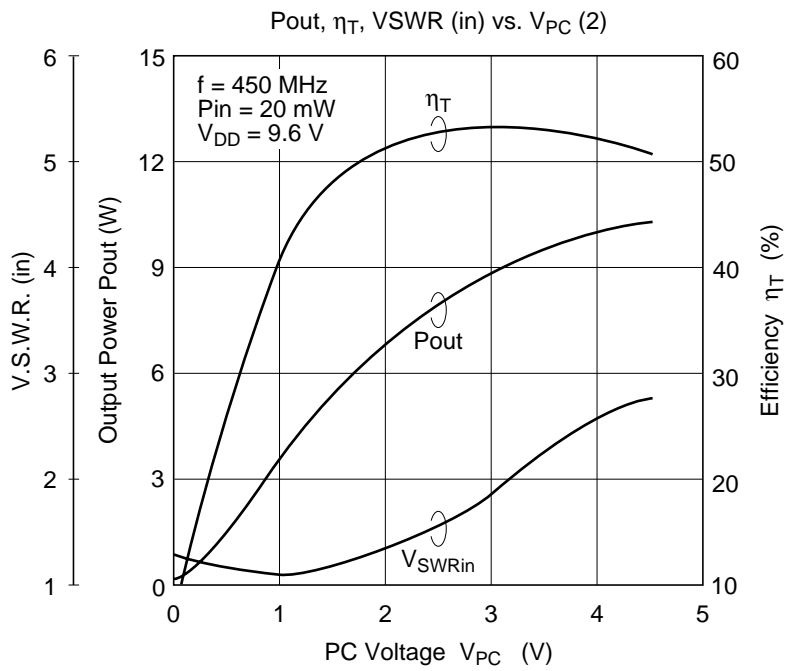
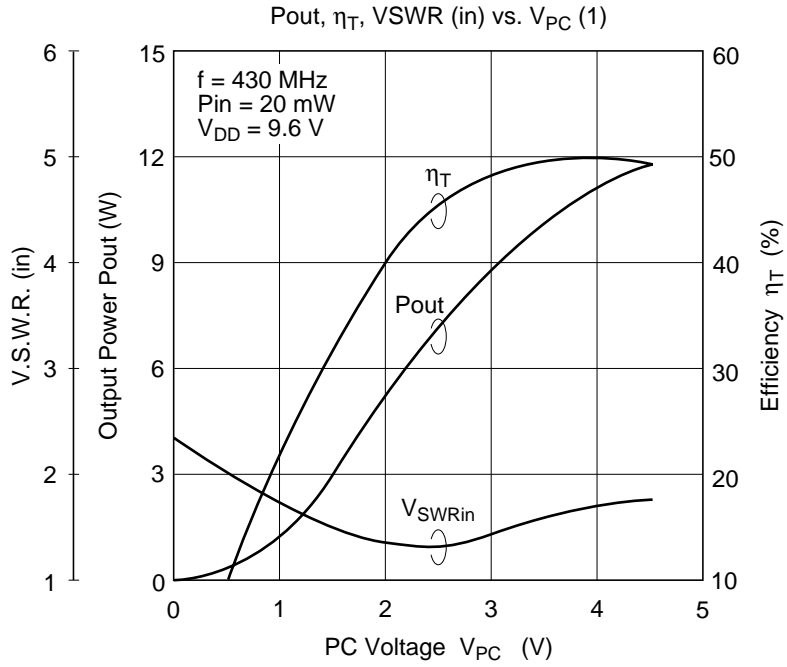
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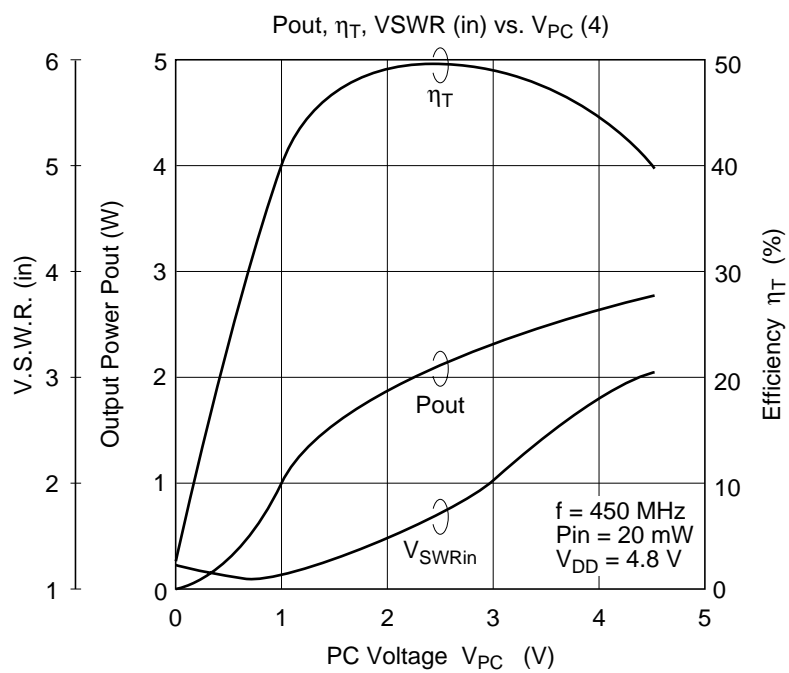
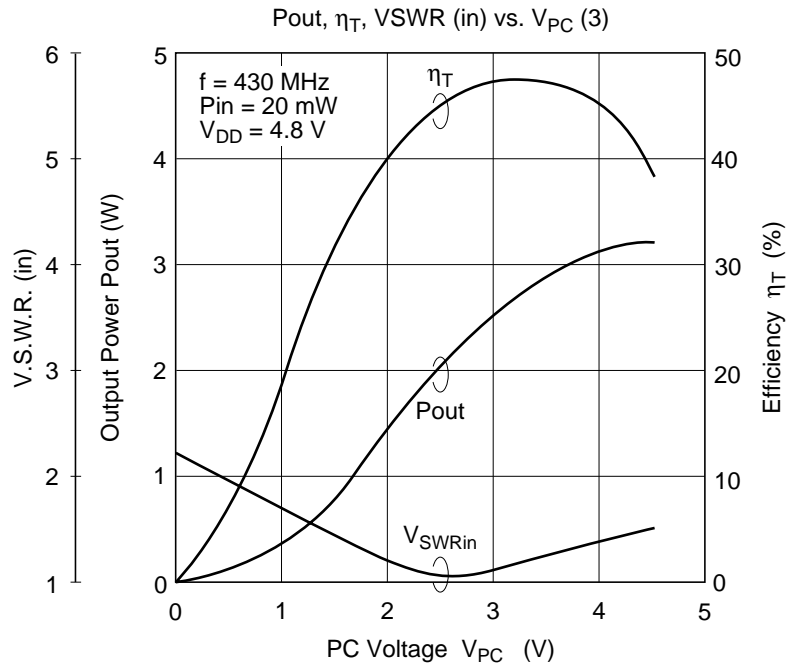
## Characteristic Curves





**PF0340A**

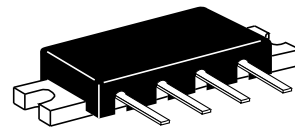
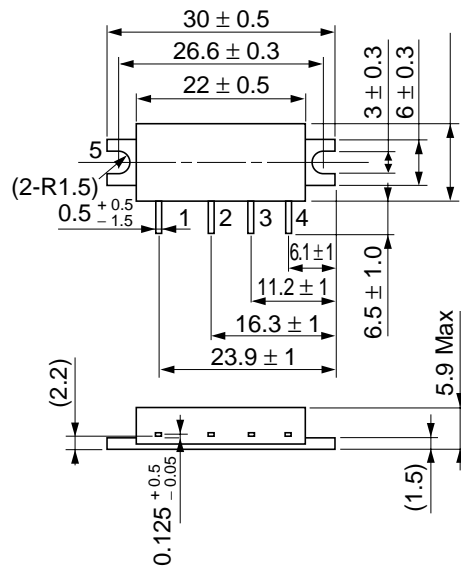




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## Package Dimensions

Unit: mm



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



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