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# PF1010A

MOS FET Power Amplifier Module for P/C LAN

# HITACHI

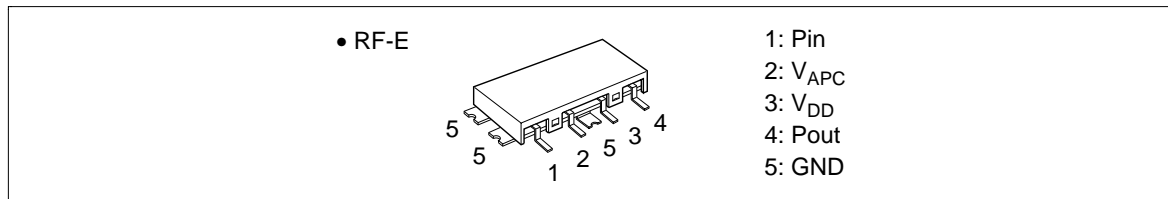
ADE-208-106A (Z)  
2nd Edition  
July 1996

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## Features

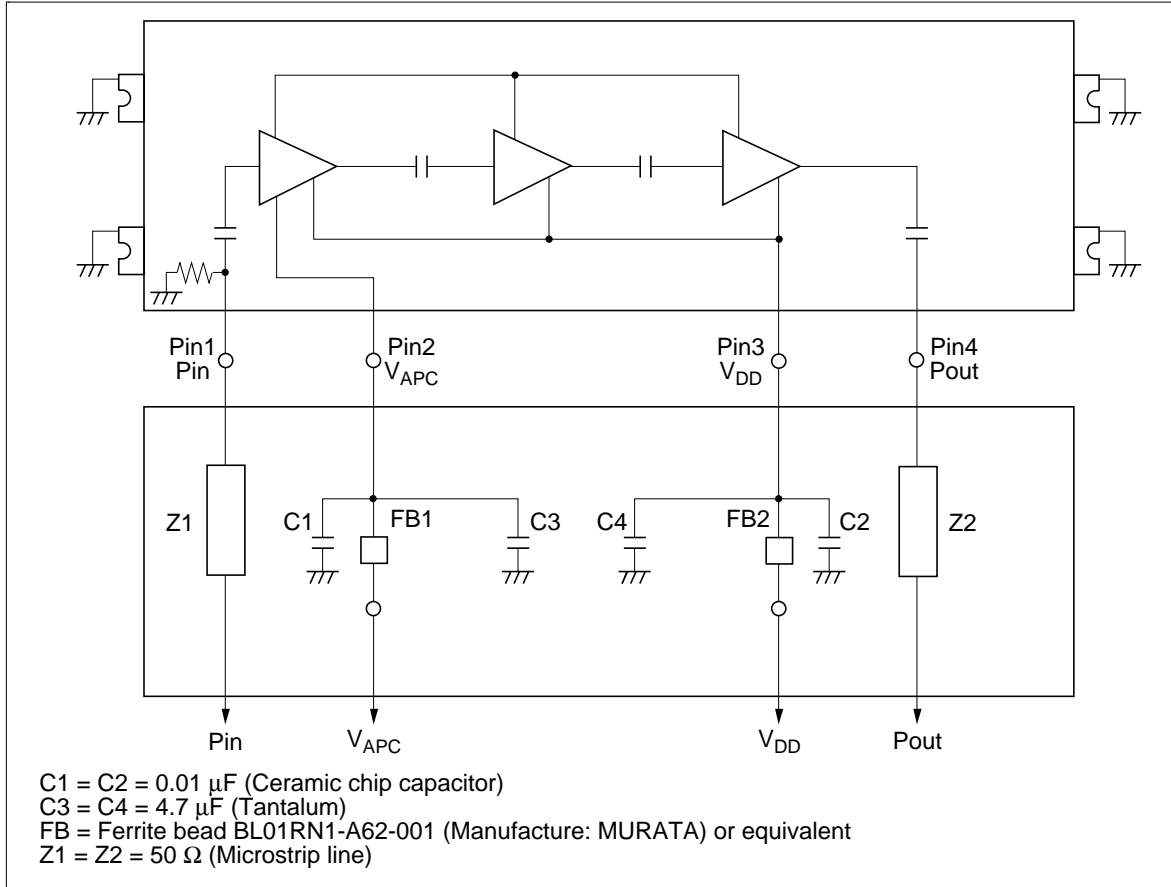
- Frequency range: 806 to 824 MHz
- Surface mounted small package: 1 cc, 3g with shielded cover
- Loe voltage operation: 6 V
- Low power control current: 300  $\mu$ A Typ

## Pin Arrangement



# PF1010A

## Internal Diagram and External Circuit



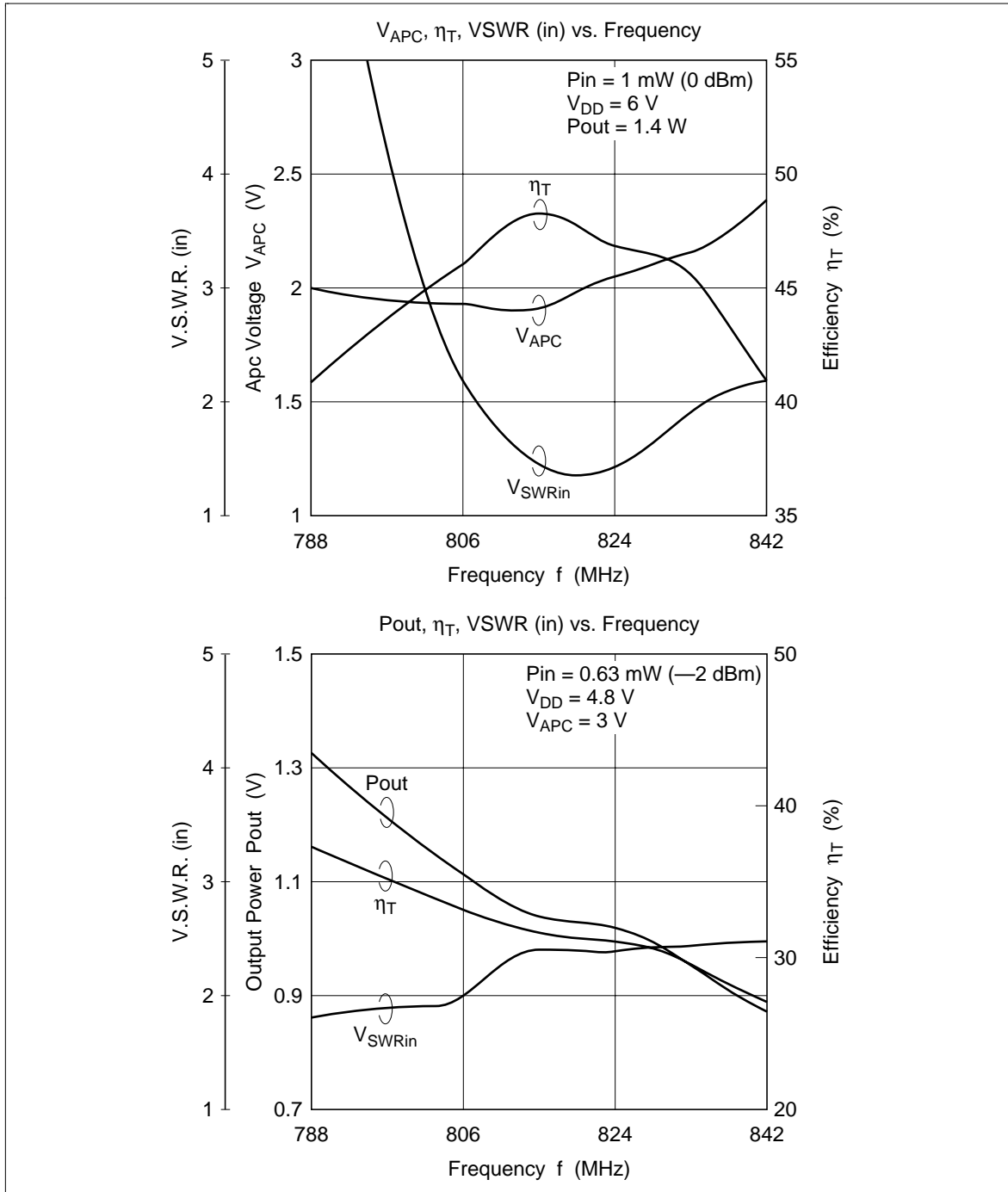
### Absolute Maximum Ratings (Tc = 25°C)

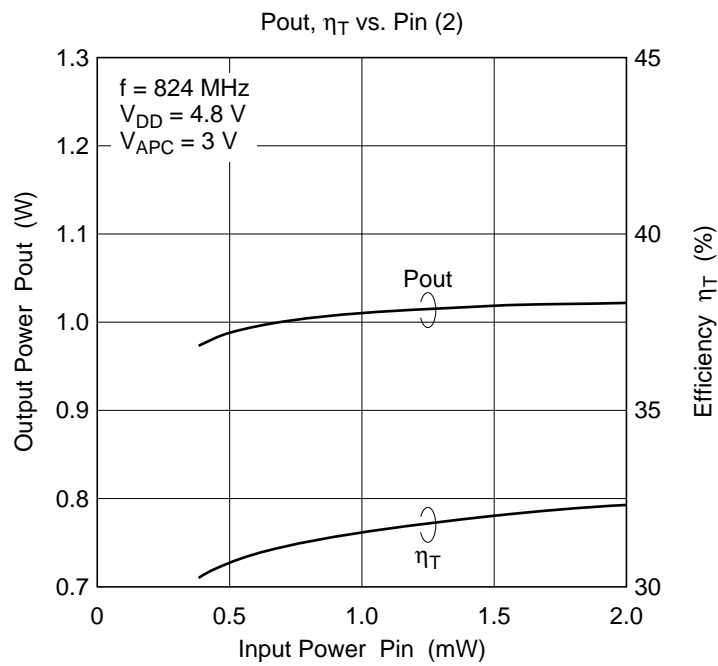
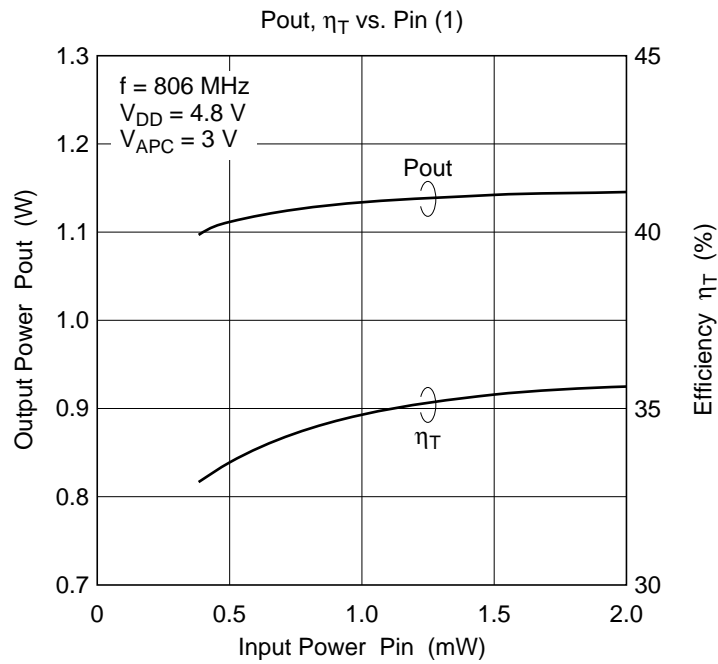
Item	Symbol	Rating	Unit
Supply voltage	V <sub>DD</sub>	12	V
Supply current	I <sub>DD</sub>	2	A
APC voltage	V <sub>APC</sub>	3	V
Input power	P <sub>in</sub>	20	mW
Operating case temperature	T <sub>c</sub> (op)	-30 to +100	°C
Storage temperature	T <sub>stg</sub>	-30 to +100	°C

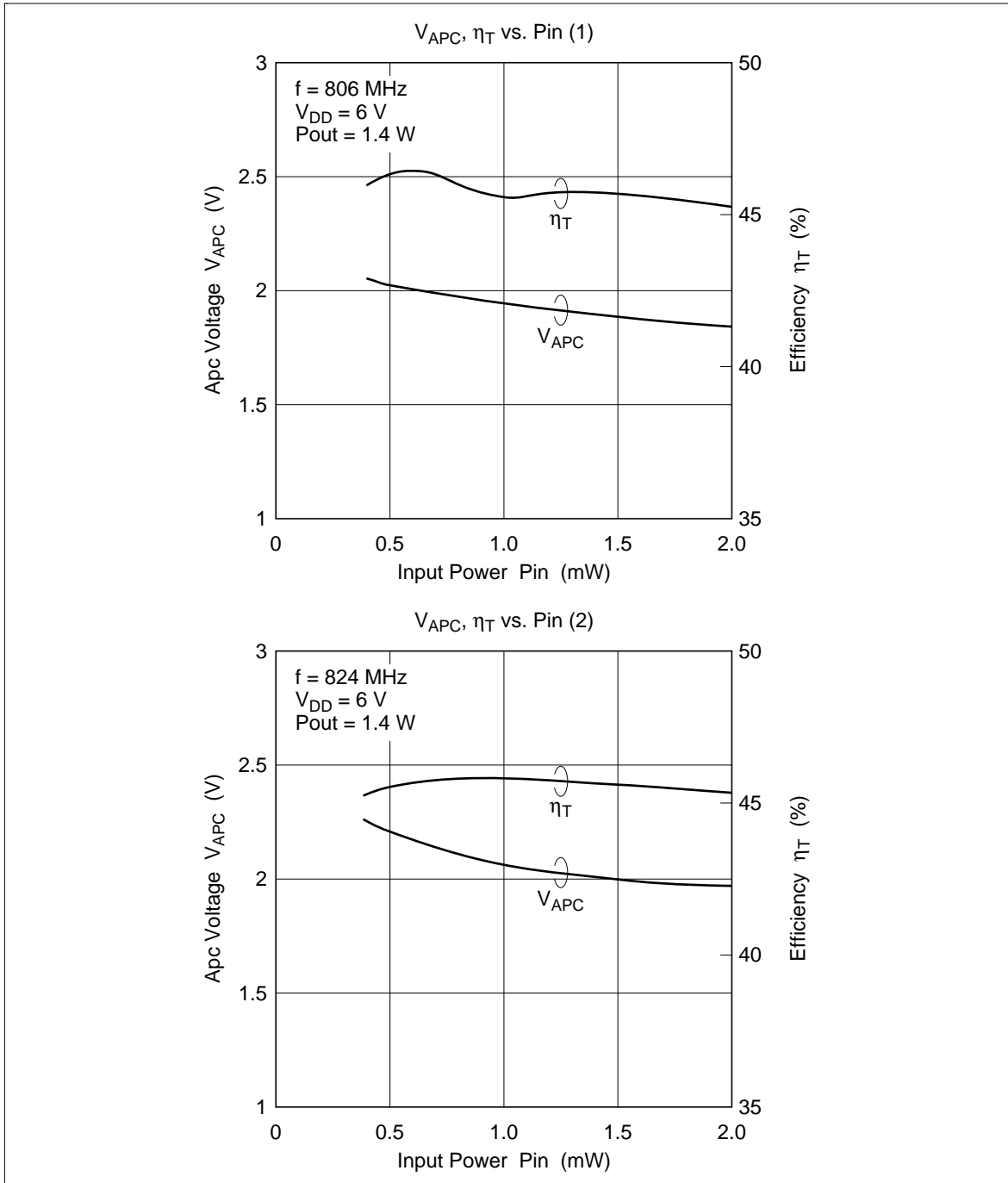
**Electrical Characteristics** ( $T_c = 25^\circ\text{C}$ )

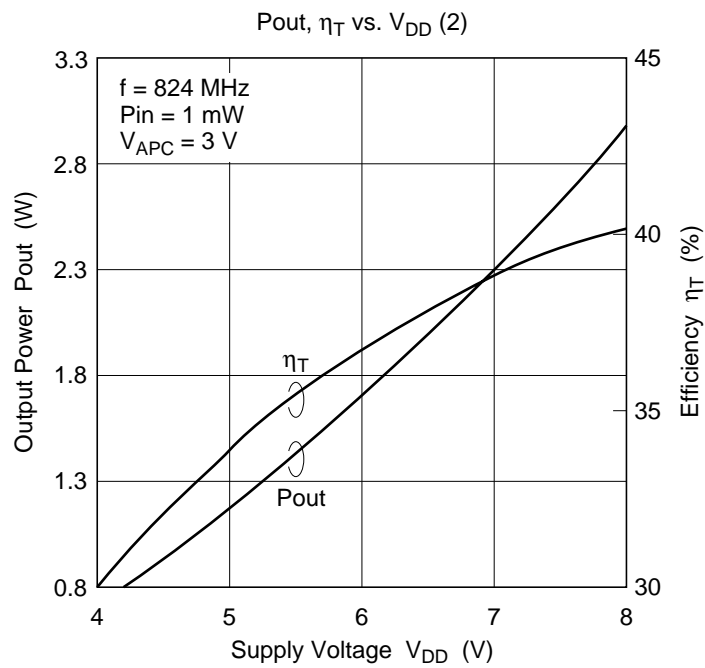
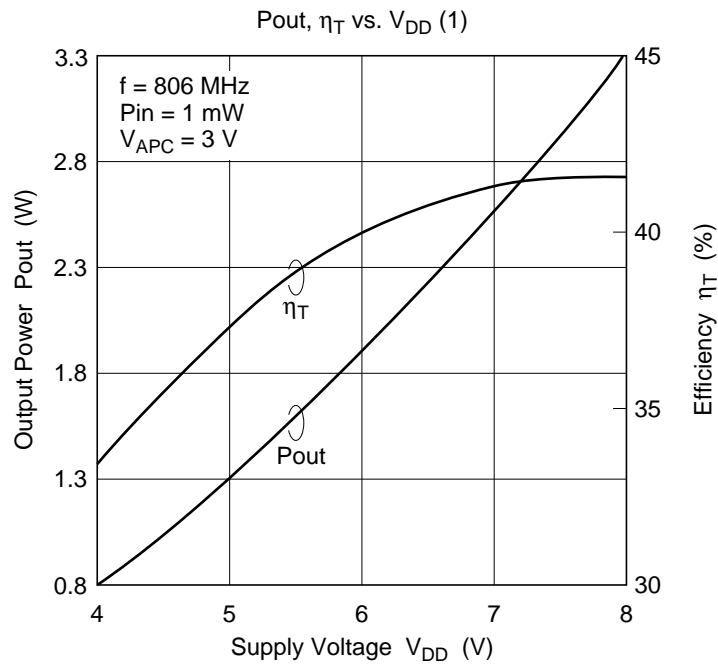
Item	Symbol	Min	Max	Unit	Test Condition
Drain cutoff current	$I_{DS}$	—	100	$\mu\text{A}$	$V_{DD} = 12\text{ V}, V_{APC} = 0\text{ V}, R_g = R_L = 50\ \Omega$
Total efficiency	$\eta_T$	39	—	%	$f = 806, 824\text{ MHz}, P_{in} = 1\text{ mW},$
2nd harmonic distortion	2nd H.D.	—	-30	dBc	$V_{DD} = 6\text{ V}, R_g = R_L = 50\ \Omega,$
3rd harmonic distortion	3rd H.D.	—	-30	dBc	$P_{out} = 1.4\text{ W (at APC controlled),}$
Input VSWR	VSWR (in)	—	3	—	
Output power	$P_{out}$	0.6	—	W	$f = 806, 824\text{ MHz}, P_{in} = 2\text{ dBm},$ $V_{DD} = 4.8\text{ V}, V_{APC} = 4\text{ V}, R_g = R_L = 50\ \Omega$
Isolation	—	—	-35	dBm	$f = 806, 824\text{ MHz}, P_{in} = 1\text{ mW}, V_{DD} = 6\text{ V},$ $V_{APC} = 0.5\text{ V}, R_g = R_L = 50\ \Omega$
Stability	—	No parasitic oscillation	—	—	$f = 806\text{ to }824\text{ MHz}, P_{in} = 1\text{ mW},$ $V_{DD} = 4.8\text{ to }7.2\text{ V}, P_{out} \leq 1.4\text{ W}, R_g = 50\ \Omega,$ Load VSWR = 3:1 All phase angles

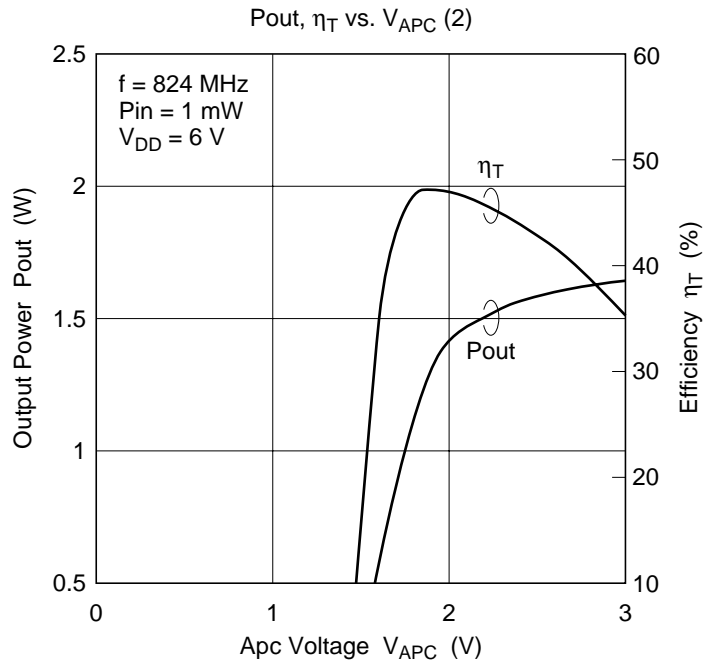
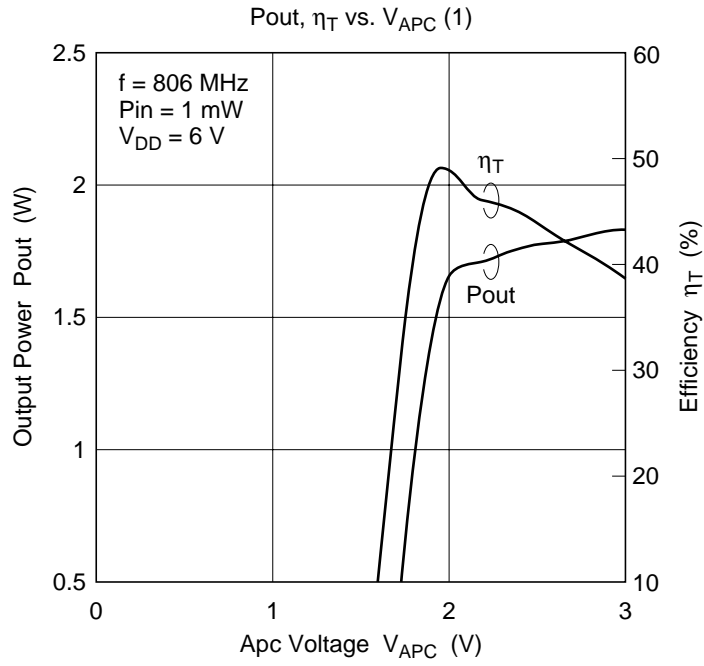
**Characteristic Curves**



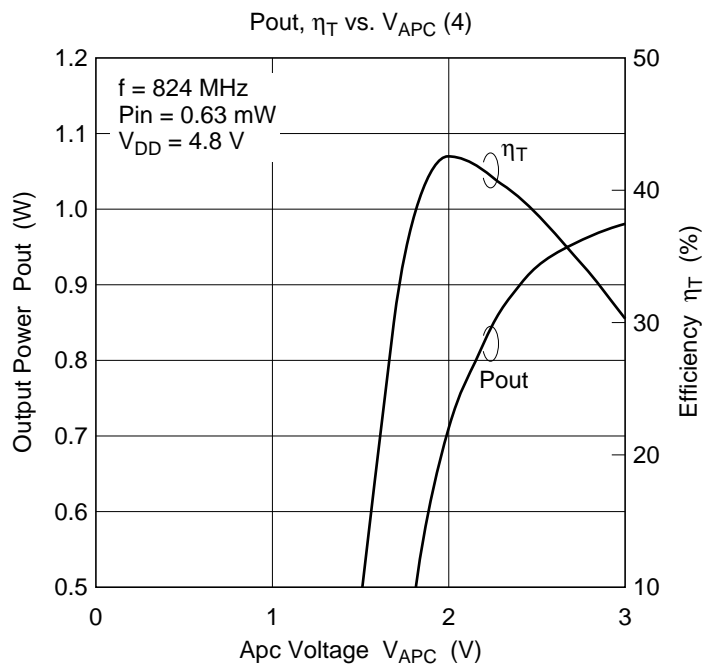
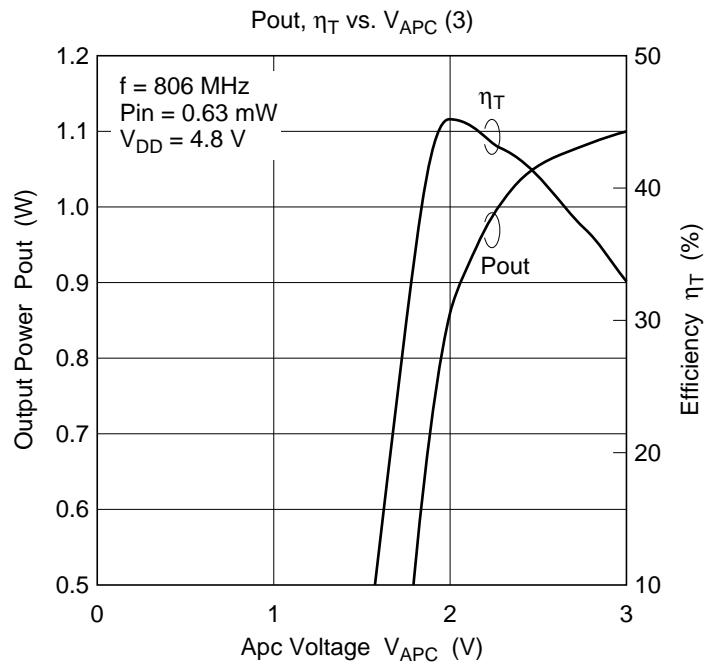


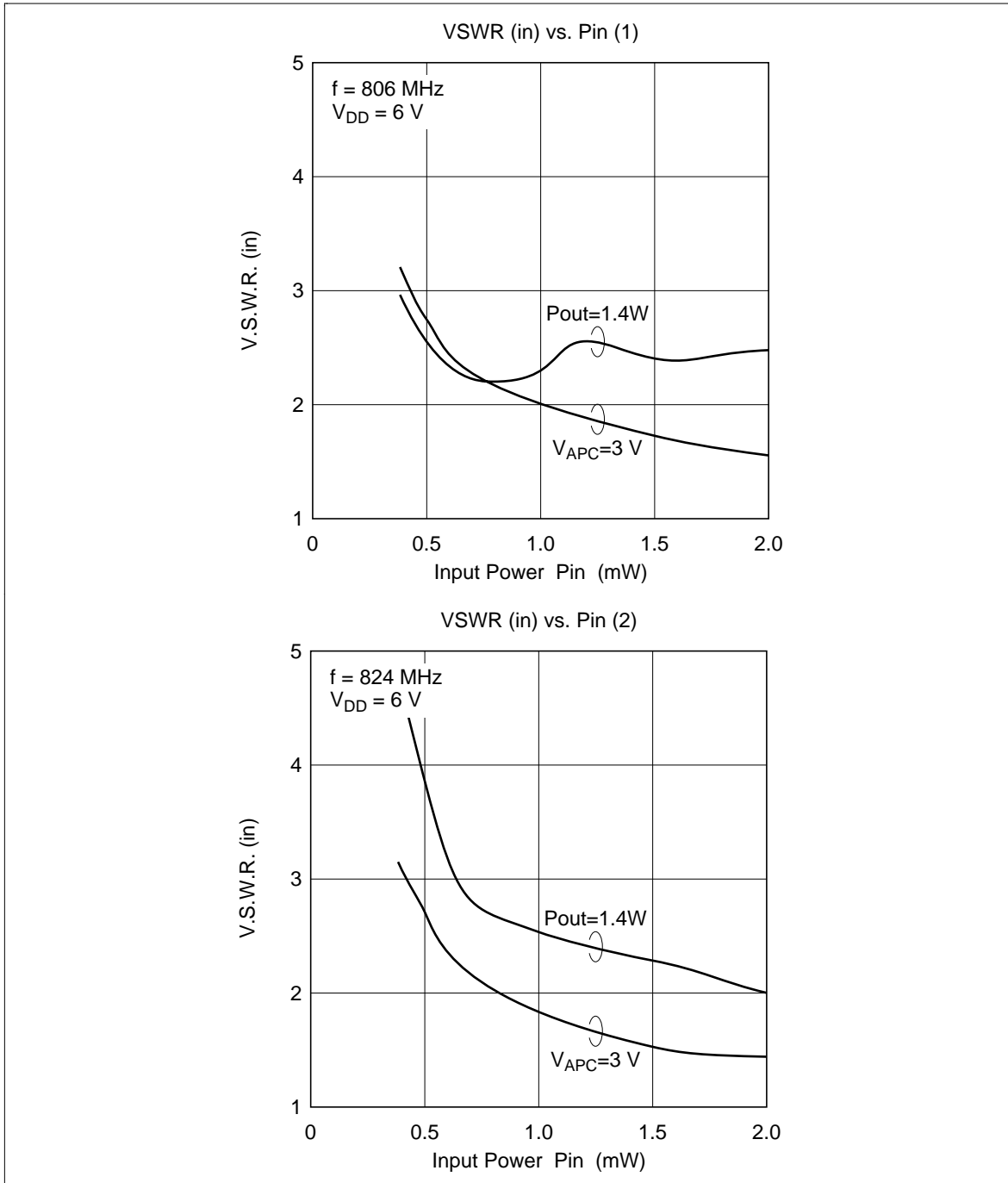


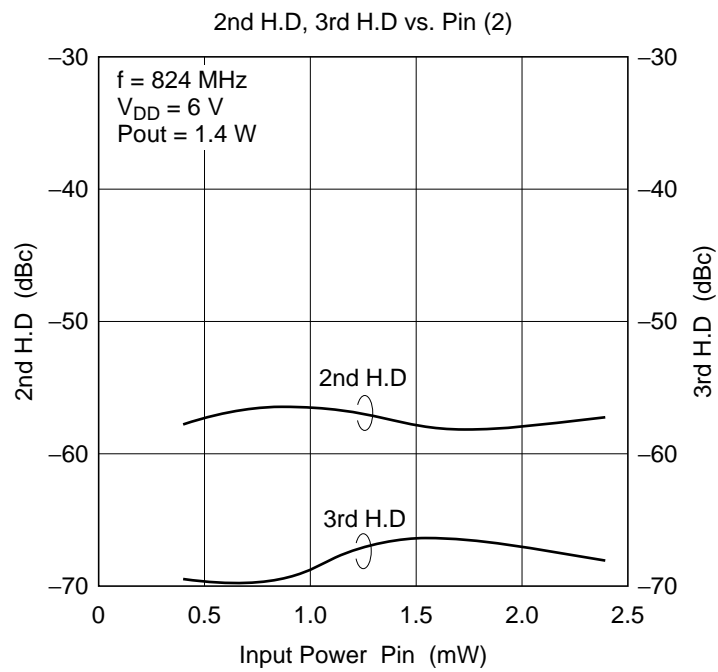
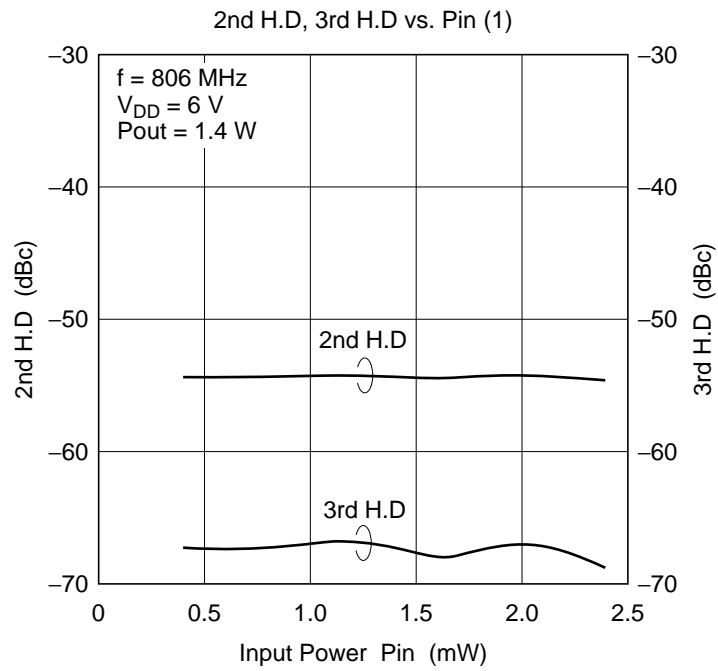








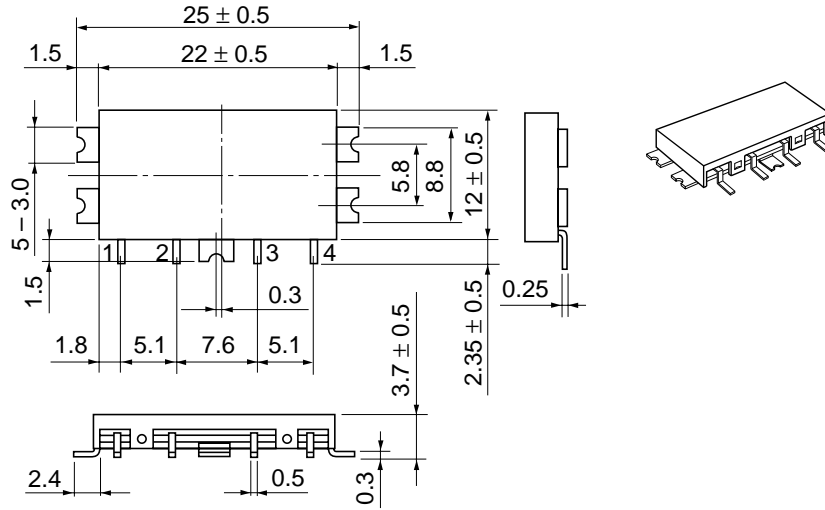




# PF1010A

## Package Dimensions

Unit: mm



Hitachi Code	RF-E
JEDEC	—
EIAJ	—
Weight (reference value)	3 g

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