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# PF1010A

MOS FET Power Amplifier Module for P/C LAN

# HITACHI

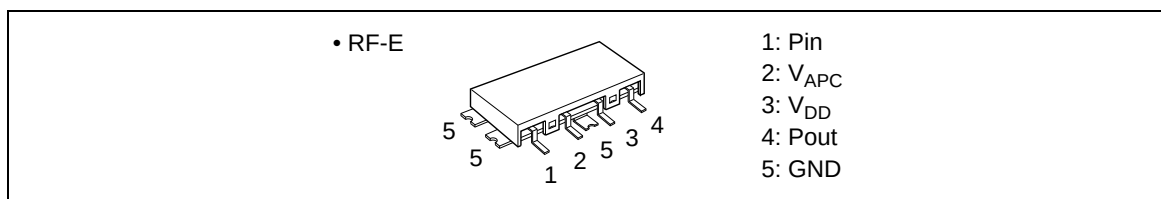
ADE-208-106A (Z)  
2nd. Edition  
July 1996

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## Features

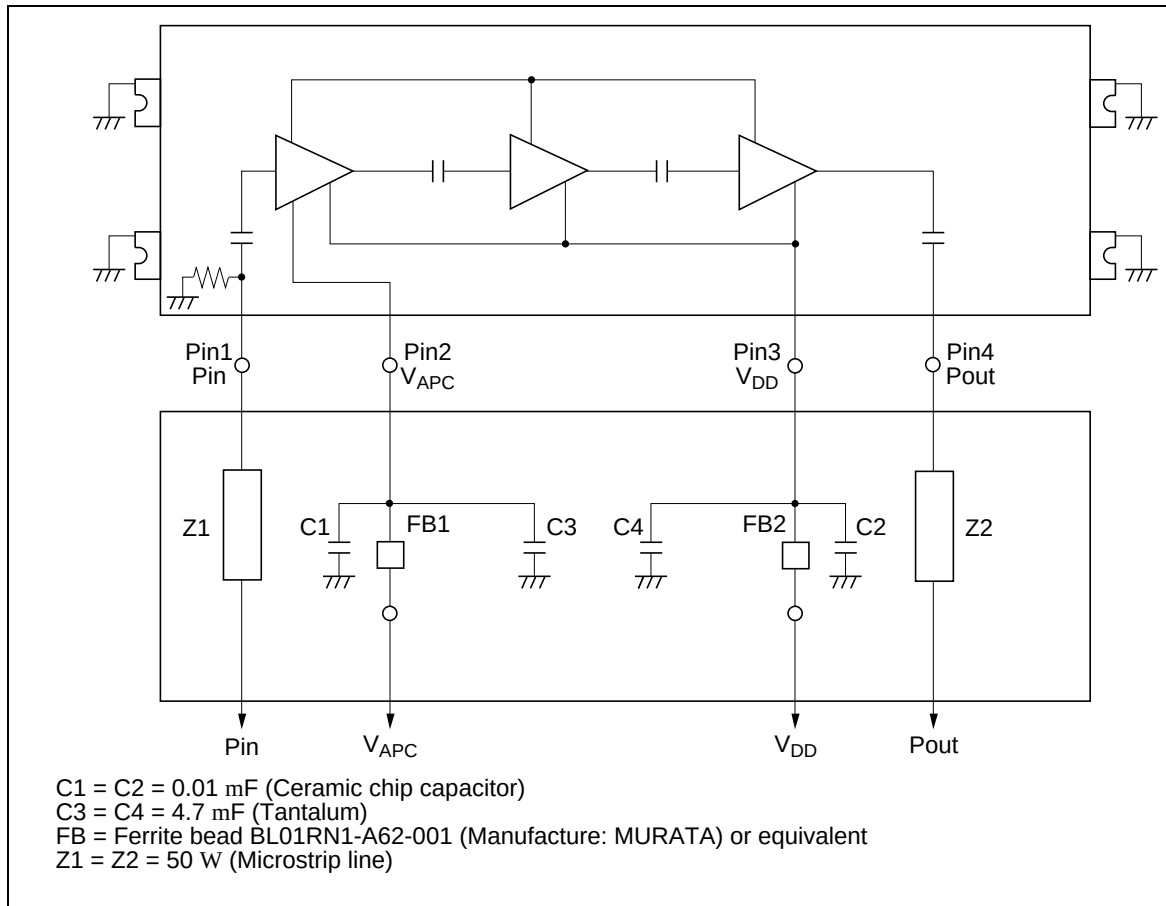
- Frequency range: 806 to 824 MHz
- Surface mounted small package: 1 cc, 3g with shielded cover
- Low voltage operation: 6 V
- Low power control current: 300  $\mu$ A Typ

## Pin Arrangement



## PF1010A

### Internal Diagram and External Circuit



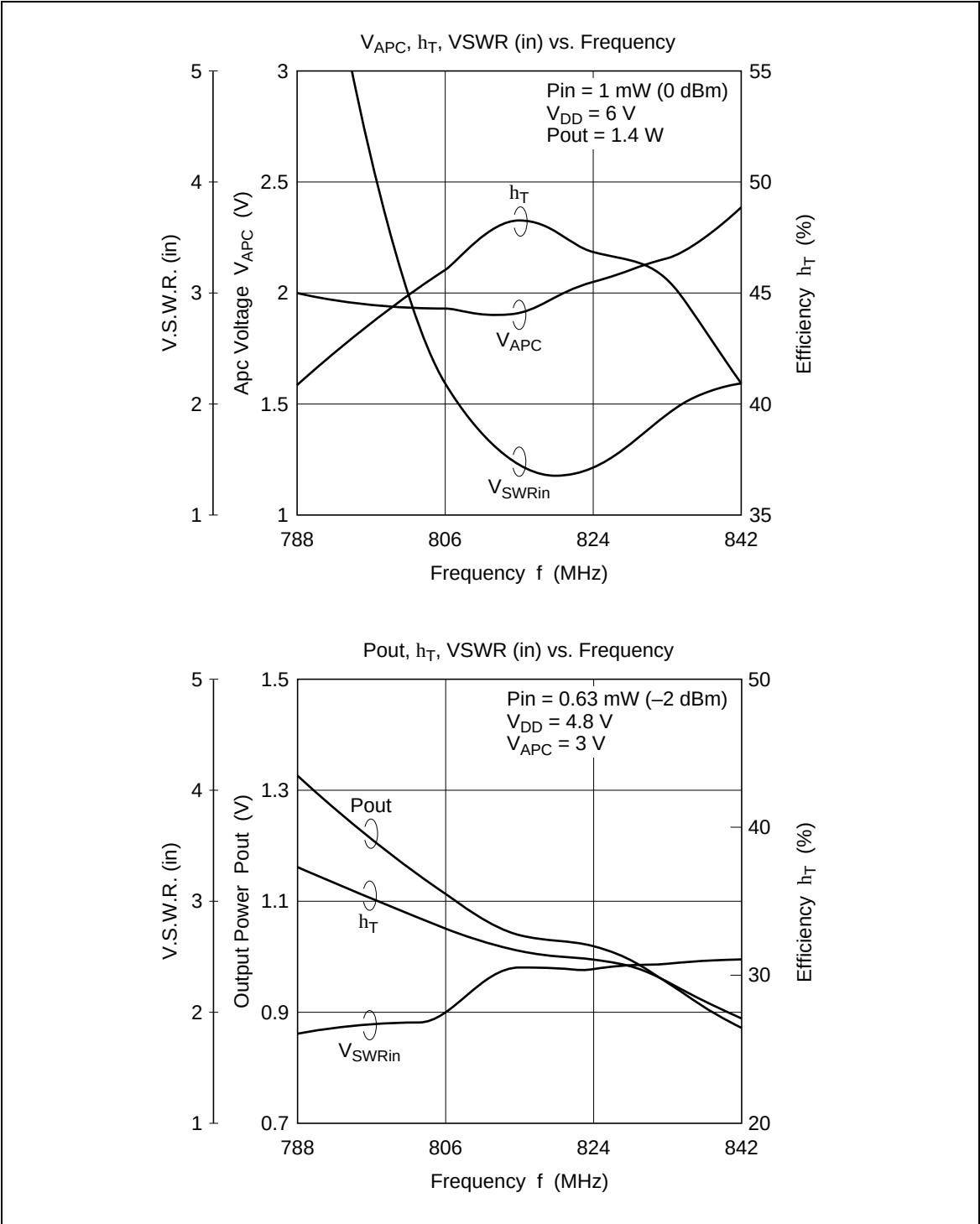
### Absolute Maximum Ratings (T<sub>c</sub> = 25°C)

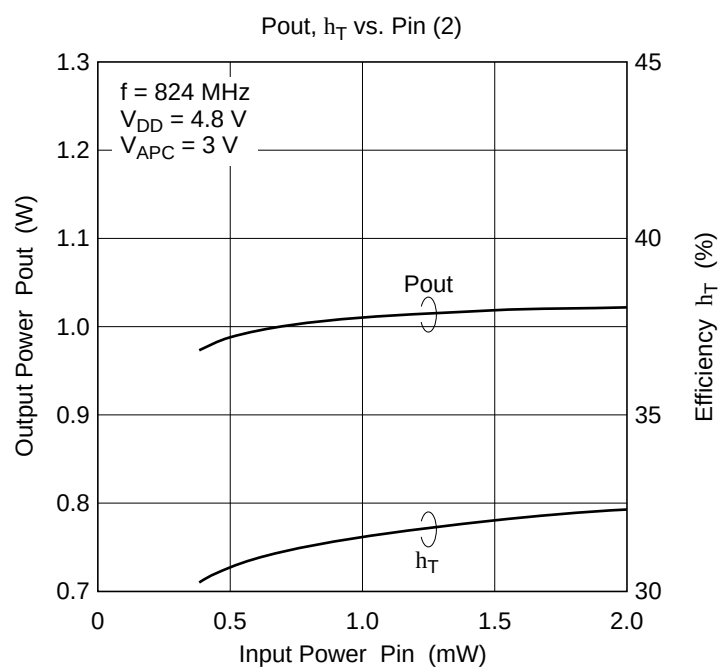
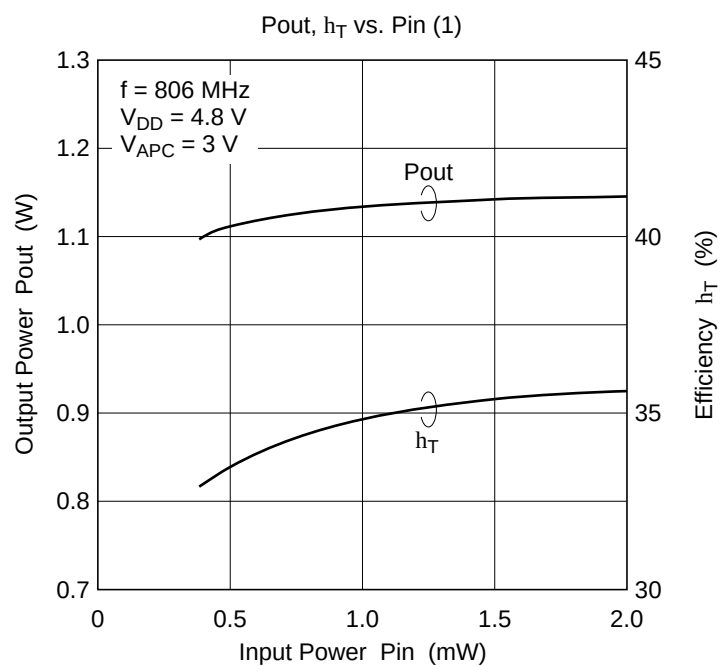
| Item                       | Symbol              | Rating      | Unit |
|----------------------------|---------------------|-------------|------|
| Supply voltage             | V <sub>DD</sub>     | 12          | V    |
| Supply current             | I <sub>DD</sub>     | 2           | A    |
| APC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

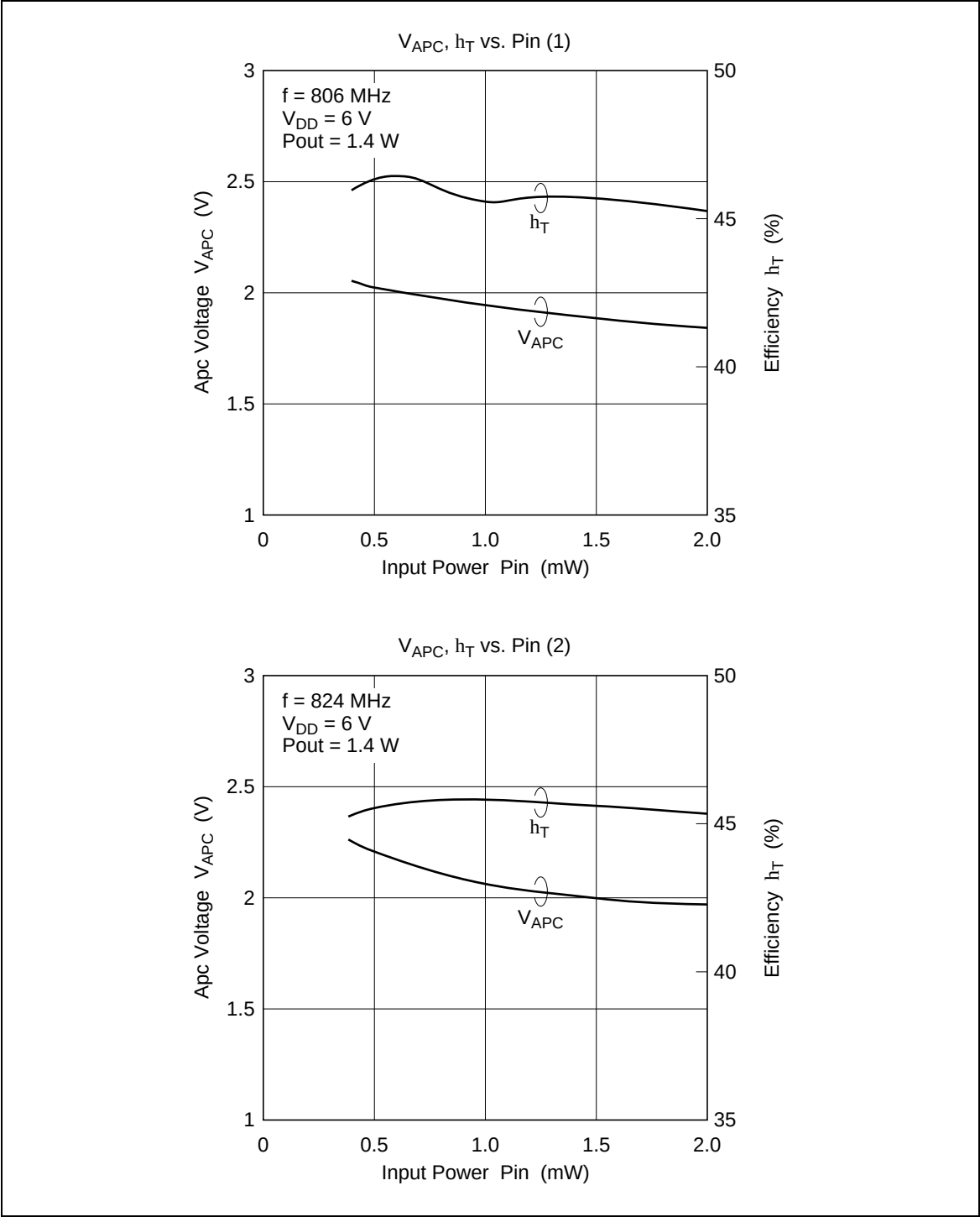
**Electrical Characteristics (Tc = 25°C)**

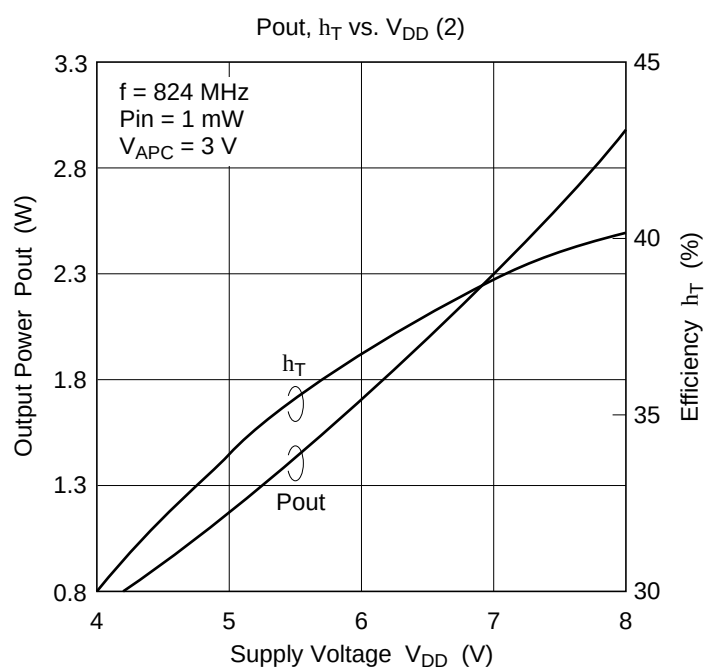
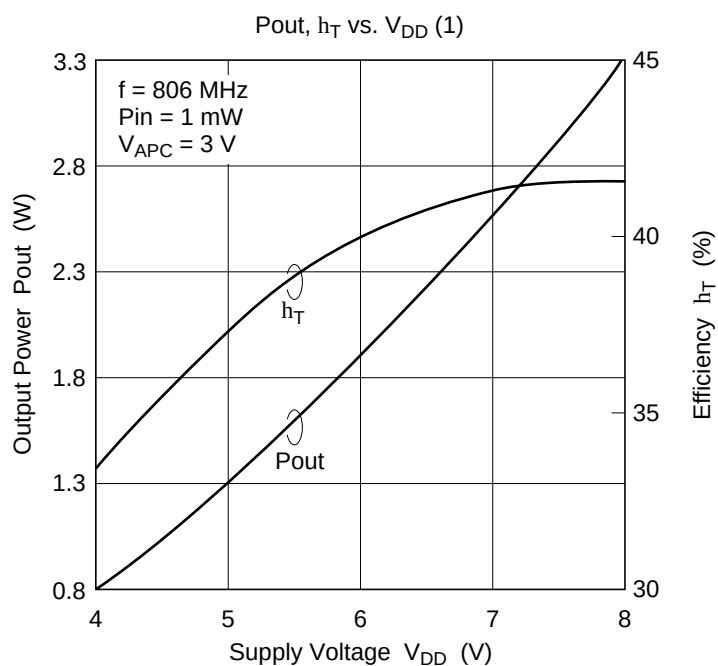
| Item                    | Symbol    | Min                      | Max | Unit    | Test Condition                                                                                                                                |
|-------------------------|-----------|--------------------------|-----|---------|-------------------------------------------------------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

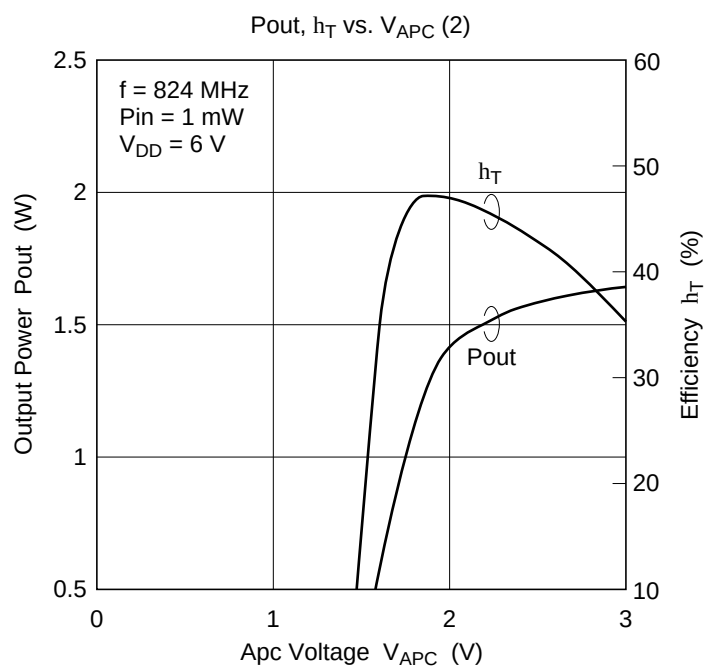
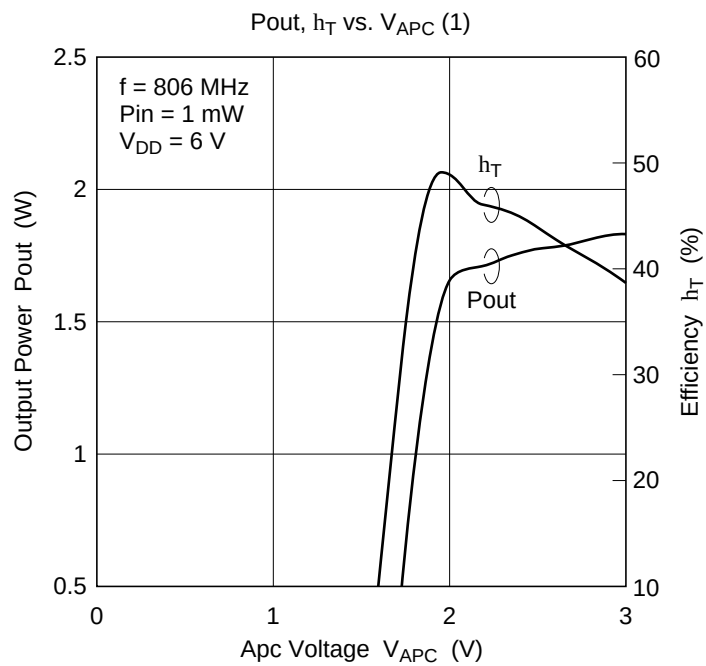
Characteristics Curve



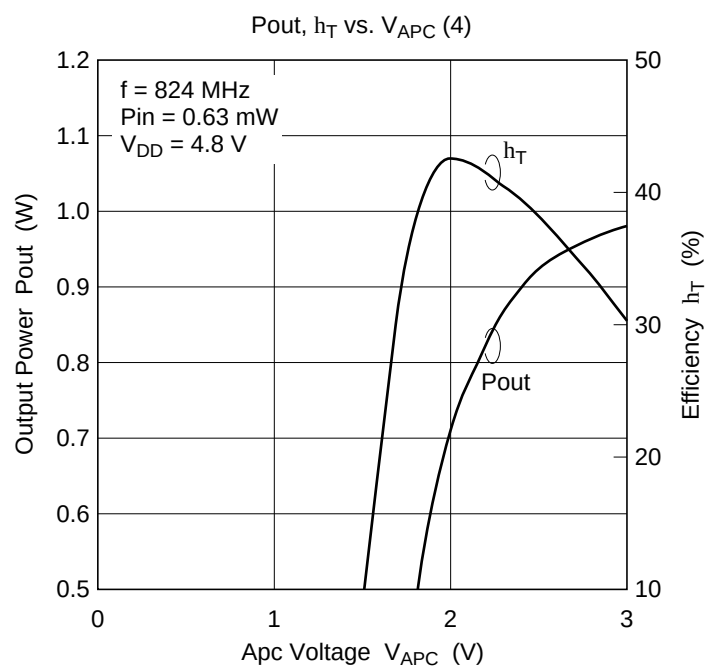
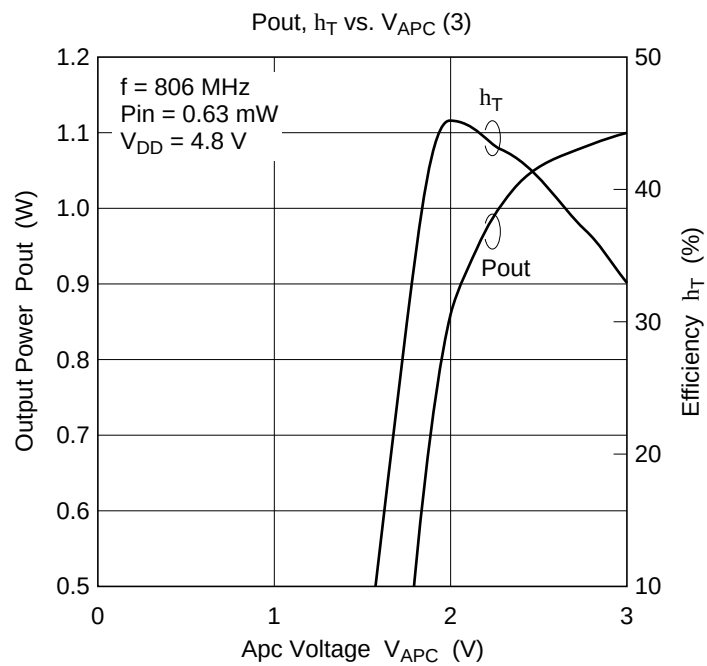


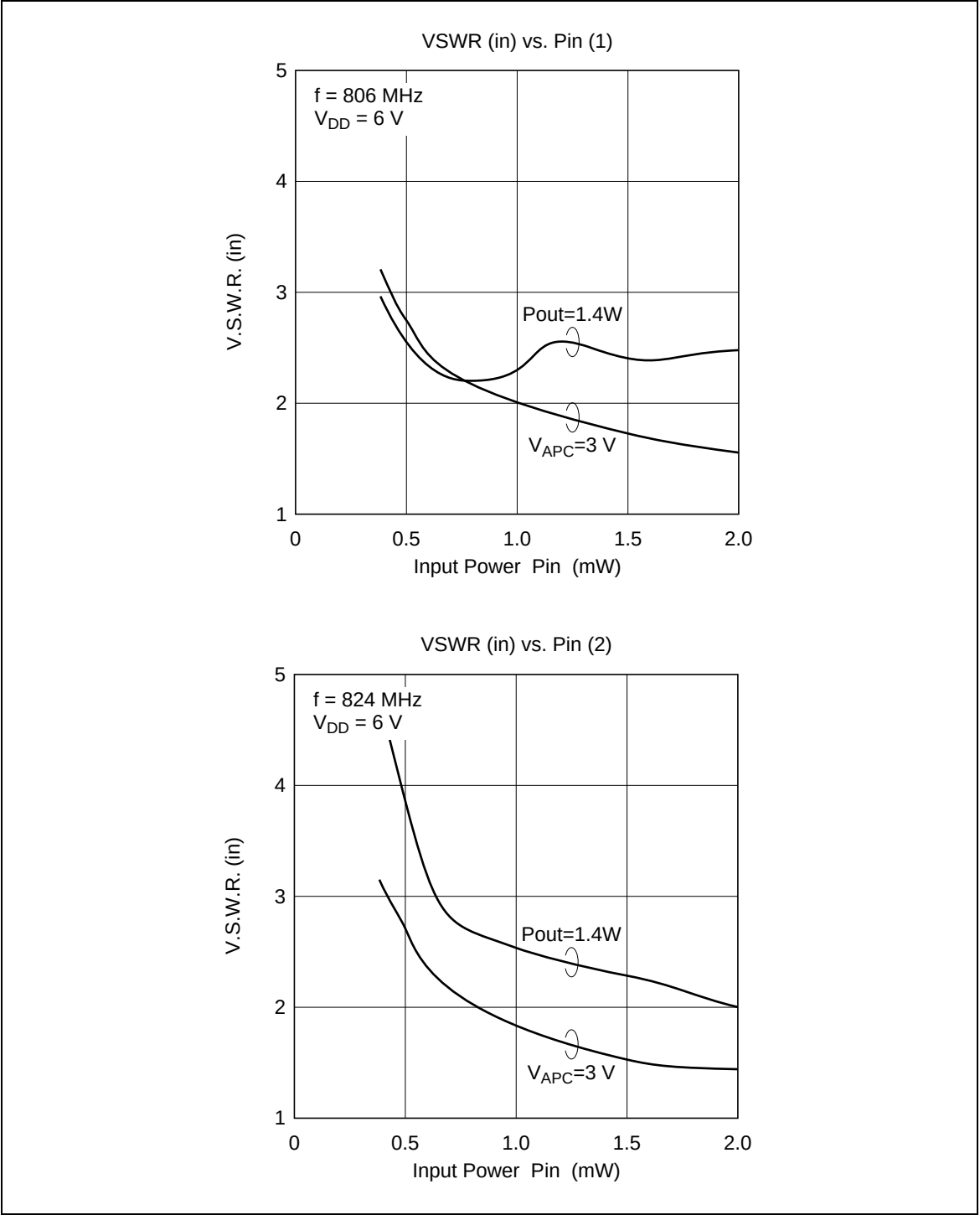


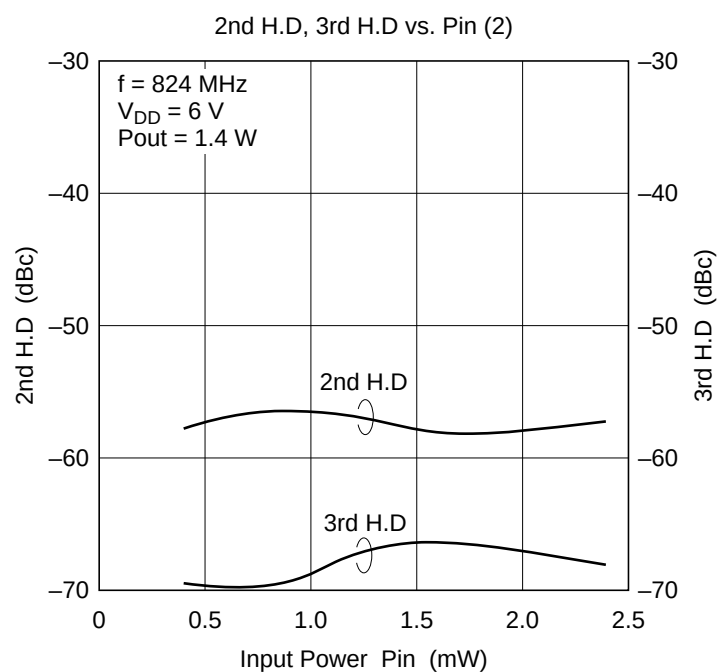
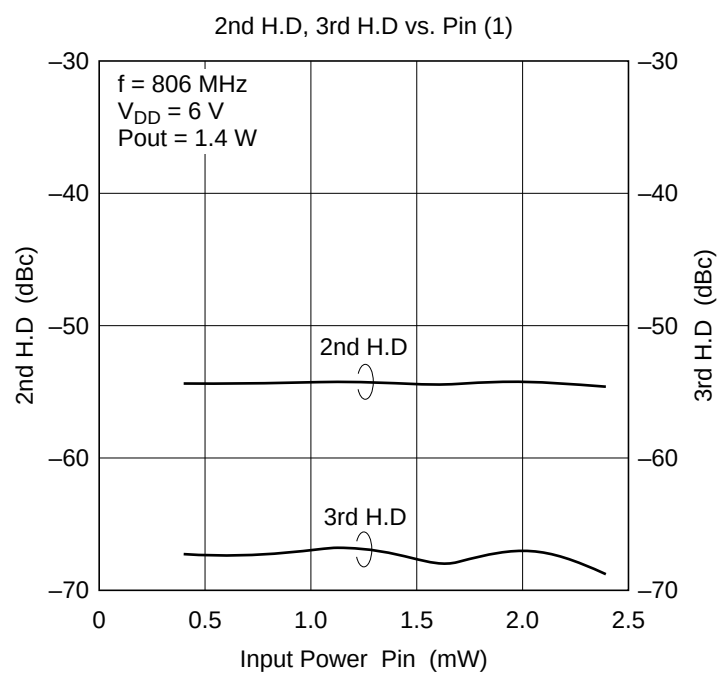












## Package Dimensions

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