
PF1010A

MOS FET Power Amplifier Module for P/C LAN

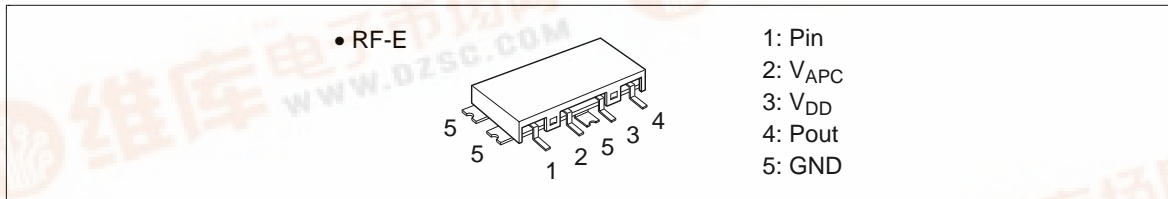
HITACHI

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

Features

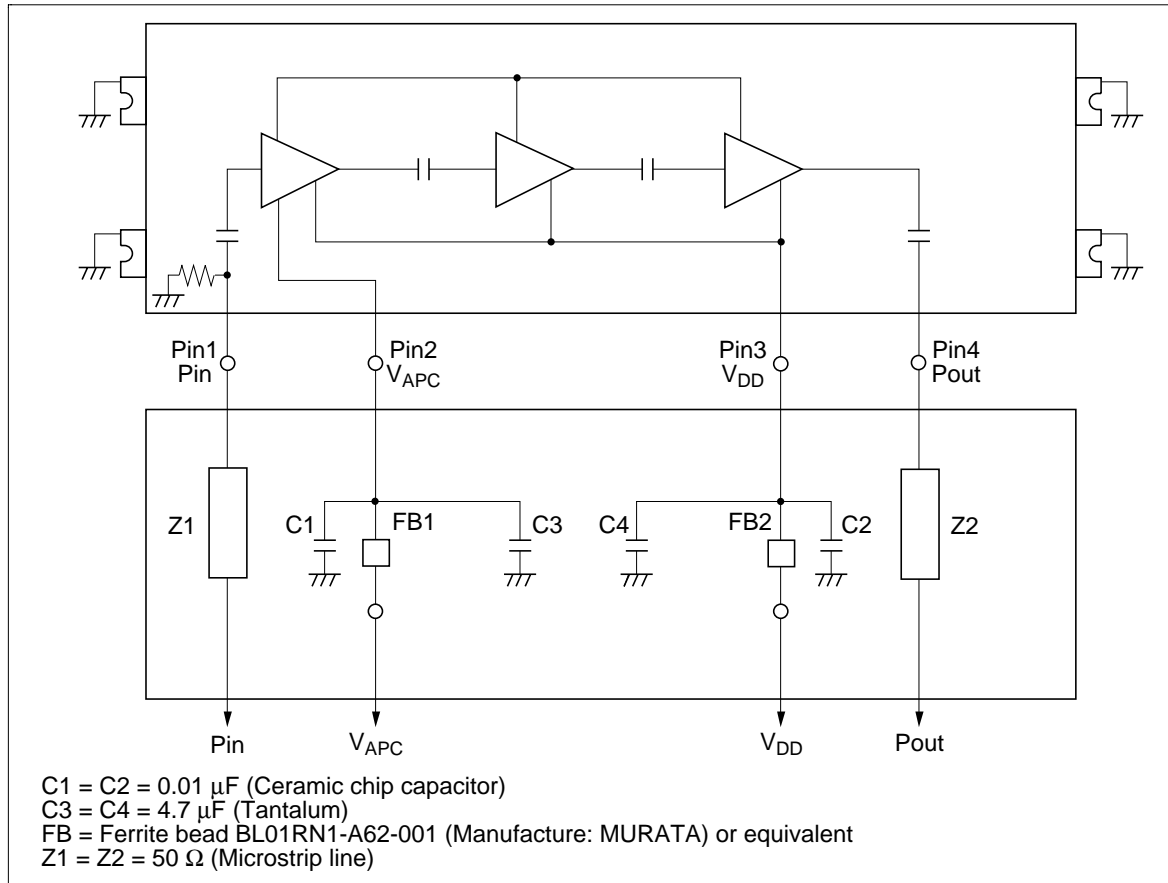
- Frequency range: 806 to 824 MHz
- Surface mounted small package: 1 cc, 3g with shielded cover
- Loe voltage operation: 6 V
- Low power control current: 300 μ A Typ

Pin Arrangement



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Internal Diagram and External Circuit



Absolute Maximum Ratings (T_c = 25°C)

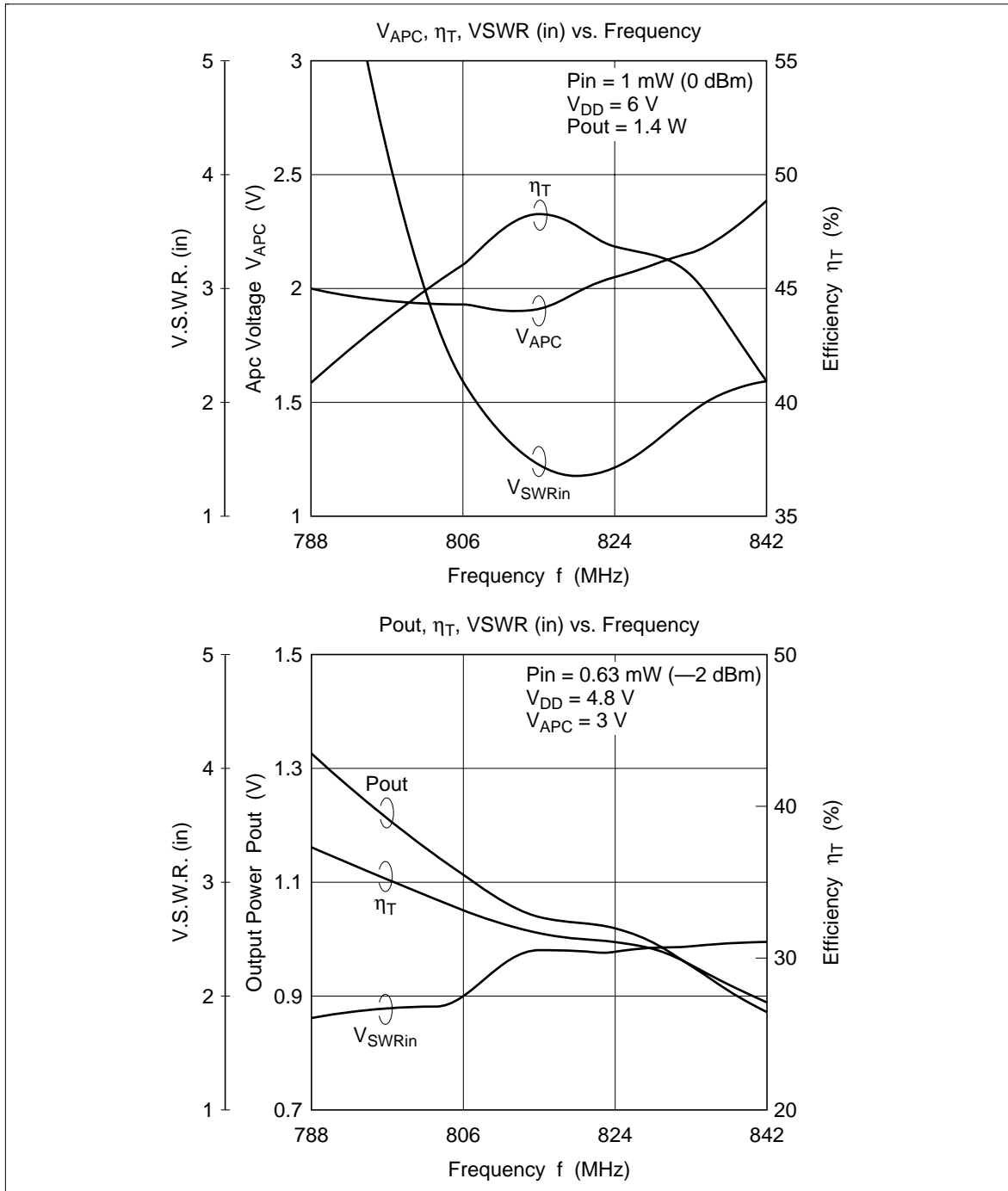
| Item | Symbol | Rating | Unit |
|----------------------------|---------------------|-------------|------|
| Supply voltage | V _{DD} | 12 | V |
| Supply current | I _{DD} | 2 | A |
| APC voltage | V _{APC} | 3 | V |
| Input power | P _{in} | 20 | mW |
| Operating case temperature | T _c (op) | -30 to +100 | °C |
| Storage temperature | T _{stg} | -30 to +100 | °C |

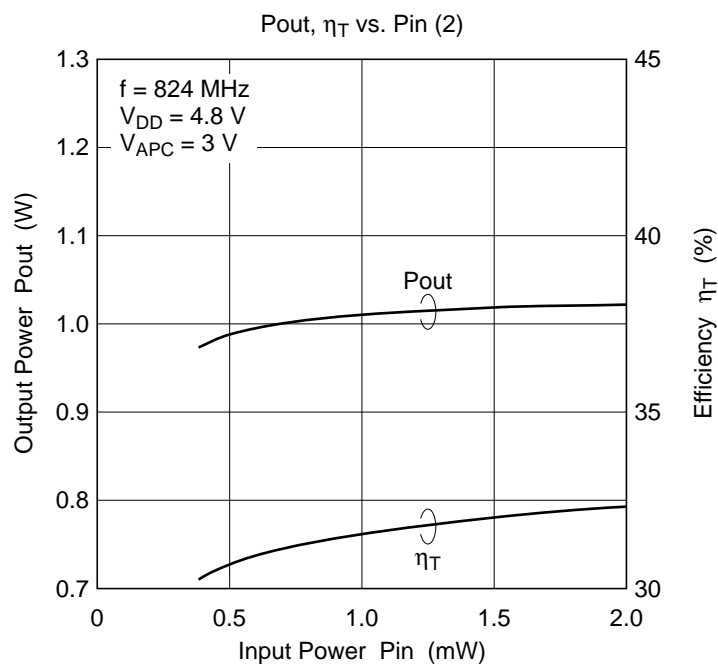
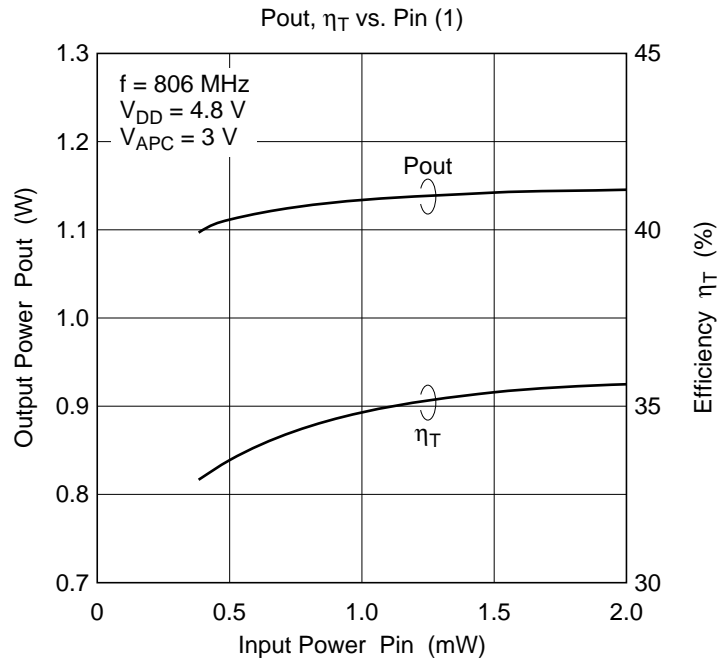
Electrical Characteristics ($T_c = 25^\circ\text{C}$)

| Item | Symbol | Min | Max | Unit | Test Condition |
|-------------------------|-----------|--------------------------|-----|---------------|---|
| Drain cutoff current | I_{DS} | — | 100 | μA | $V_{DD} = 12\text{ V}$, $V_{APC} = 0\text{ V}$, $R_g = R_L = 50\ \Omega$ |
| Total efficiency | η_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 |

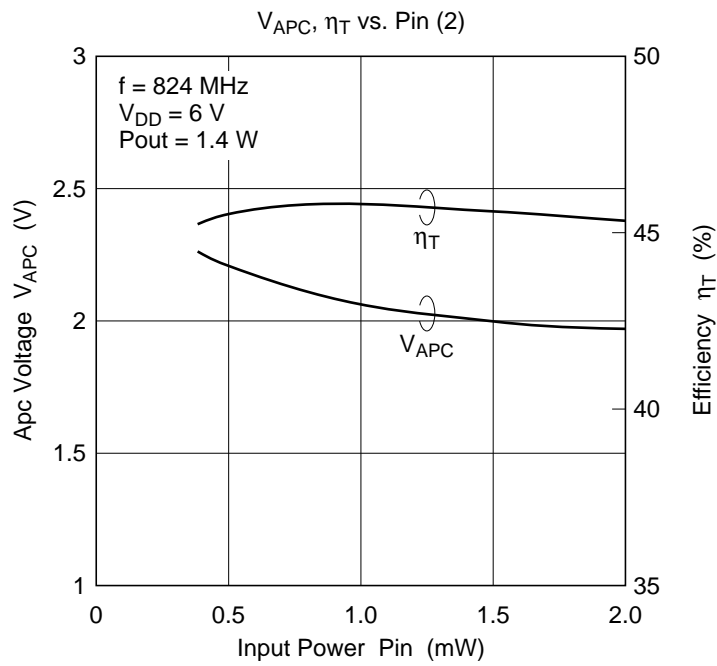
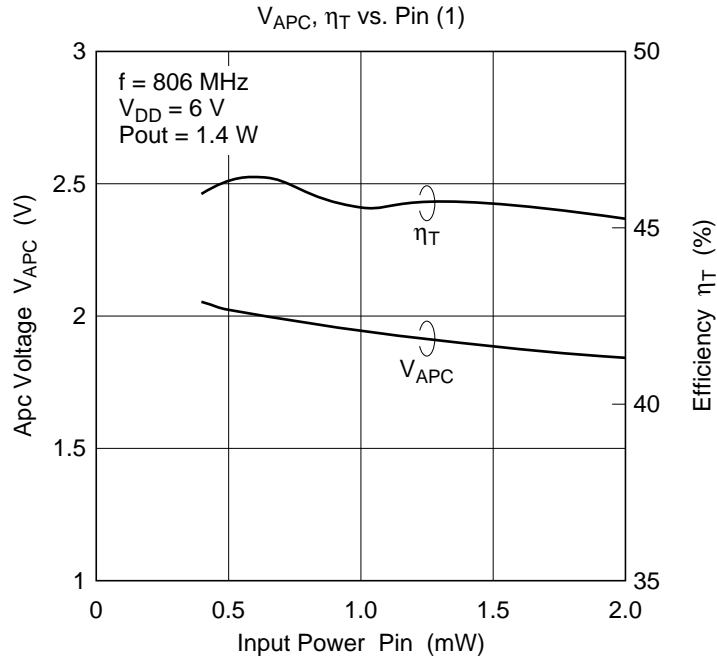
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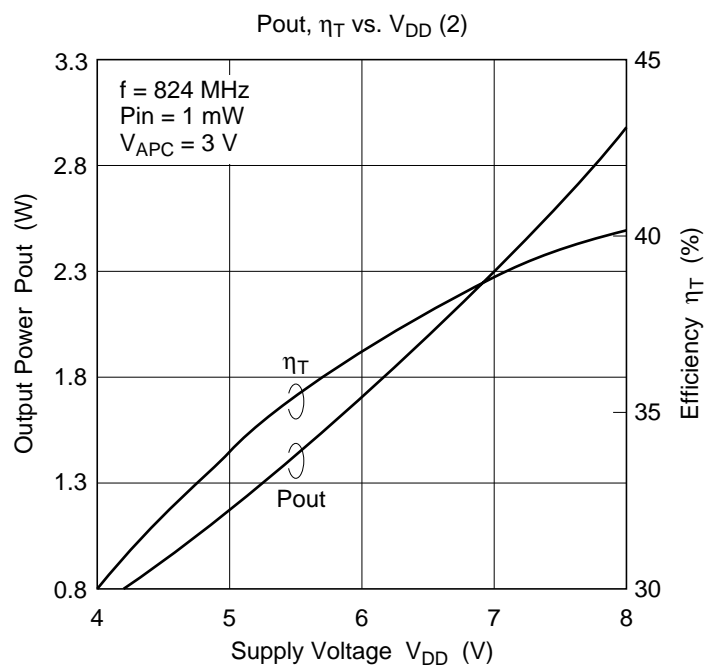
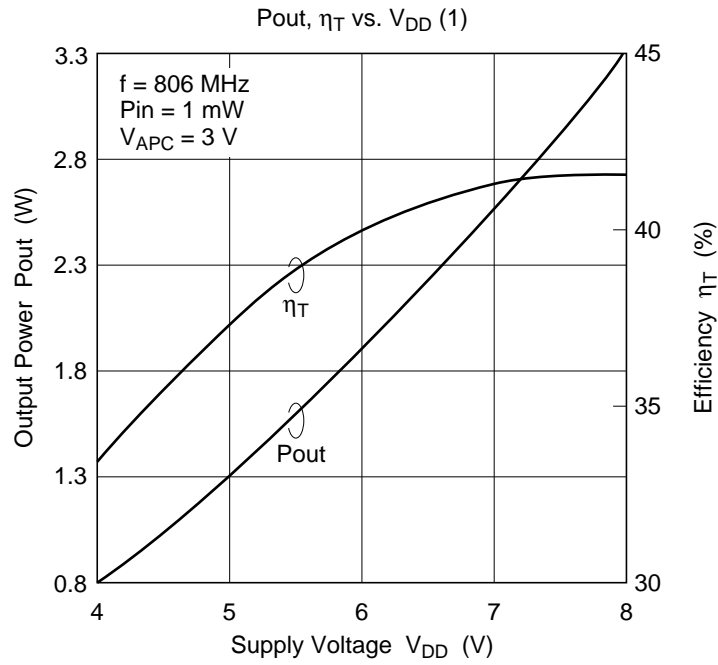
Characteristic Curves



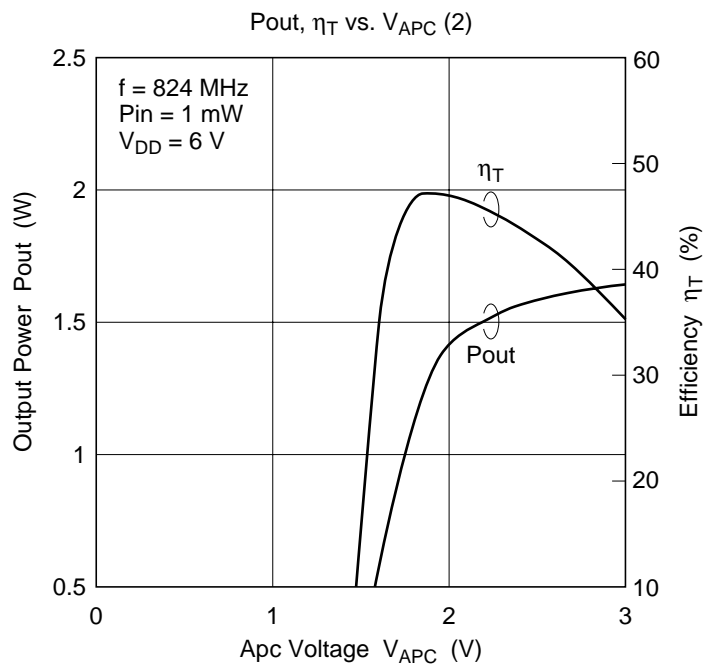
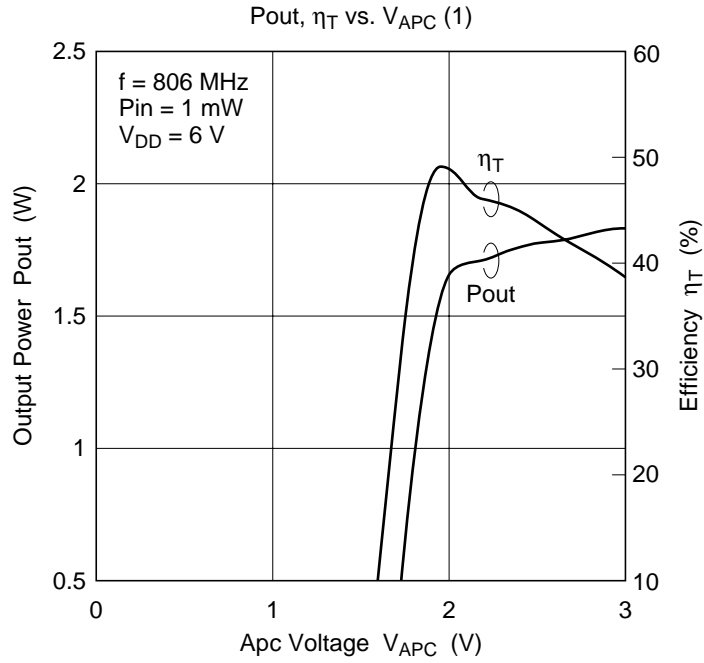


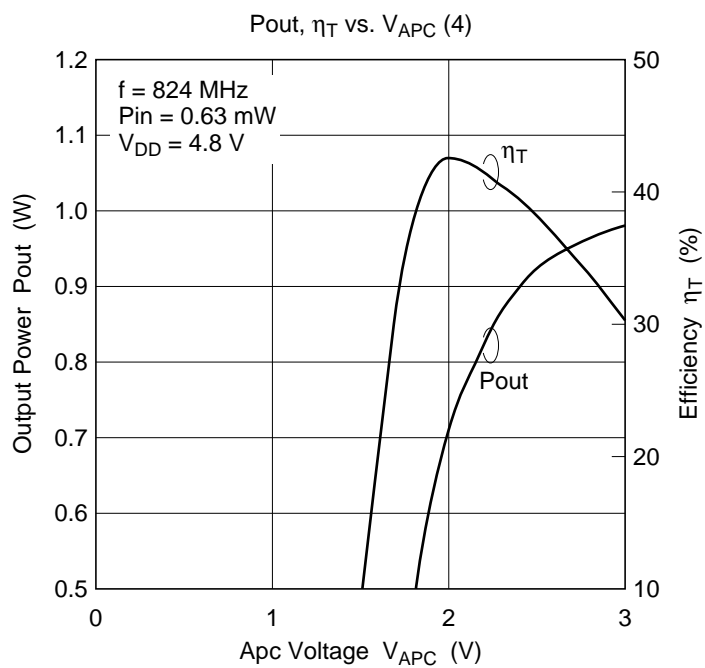
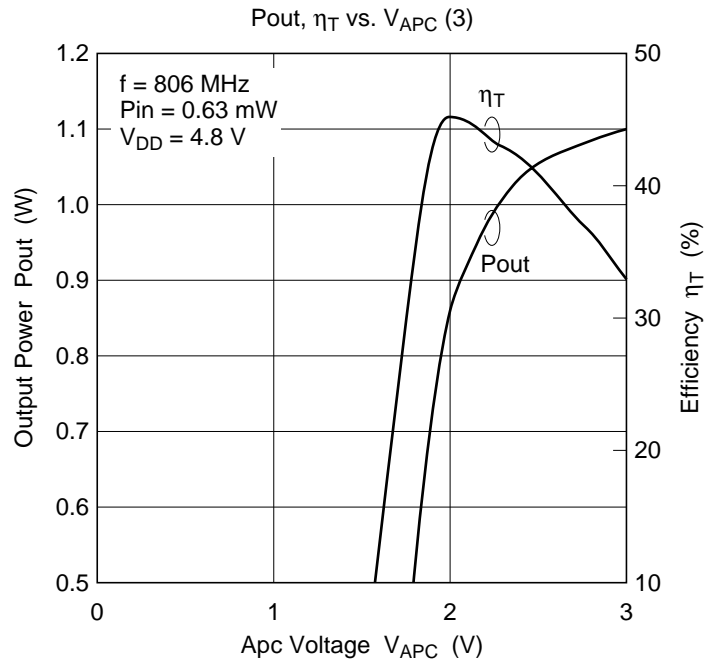
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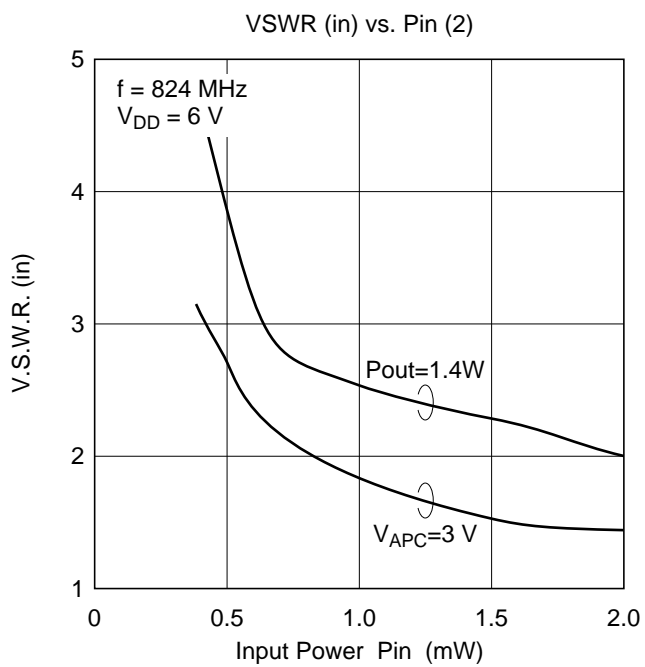
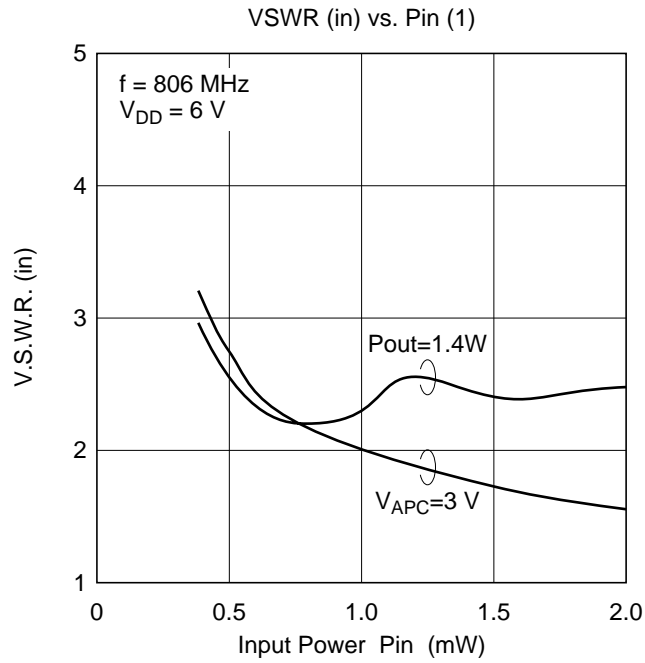


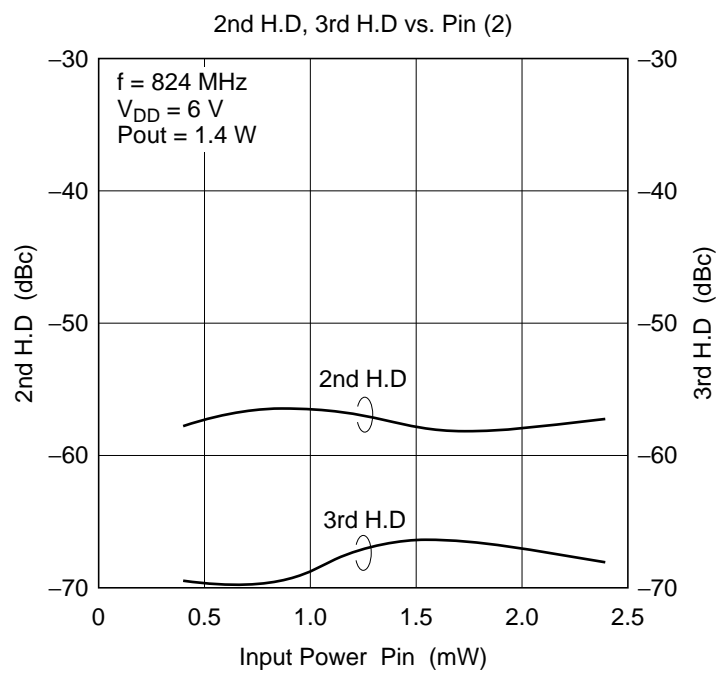
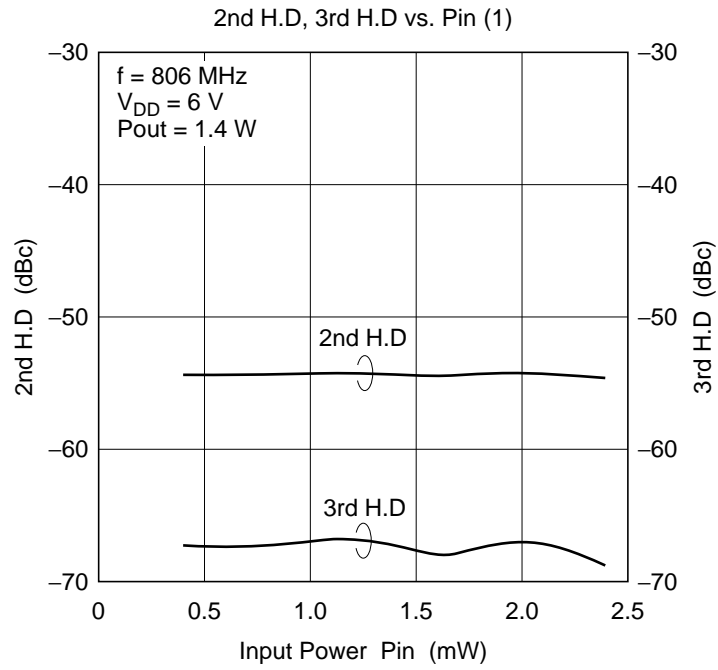
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