

PF1004 Series

HITACHI/ (LINEAR DEVICES) 68E D

MOS FET Power Amplifier Module for GSM Handy Phone

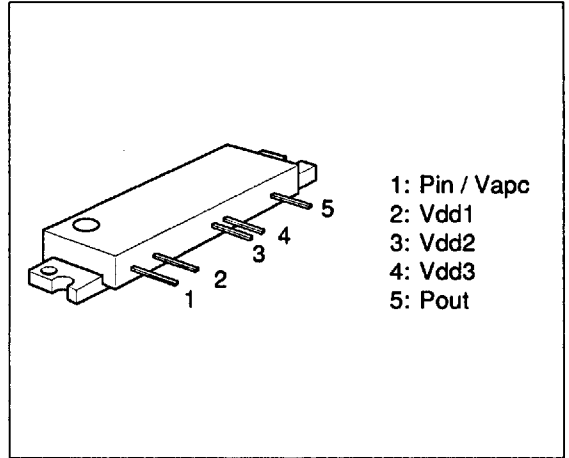
Features

- Low power control current 300 μ A Typ.
- High speed switching 10 μ s Typ.
- Wide power control range 80 dB Typ.

Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

Item	Symbol	Rating	Unit
Supply voltage	V_{DD}	12	V
Supply current	I_{DD}	2	A
APC voltage	V_{apc}	± 8	V
Input power	P_{in}	20	mW
Operating case temperature	T_c (op)	$-30 \sim +100$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-30 \sim +100$	$^\circ\text{C}$



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

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Drain cutoff current	I_{ds}	—	—	100	μA	$V_{DD} = 12\text{ V}$, $V_{apc} = 0\text{ V}$, $R_g = R_1 = 50\ \Omega$
Total efficiency	η_T	30	35	—	%	$P_{in} = 2\text{ mW}$, $V_{DD} = 6\text{ V}$, $P_{out} = 3\text{ W}$ (at APC controlled), $R_g = R_1 = 50\ \Omega$, $T_c = 25^\circ\text{C}$
2nd harmonic distortion	2nd H.D.	—	-40	-30	dB	
3rd harmonic distortion	3rd H.D.	—	-40	-30	dB	
Input VSWR	VSWR (in)	—	2	3	—	
Output power	P_{out} (1)		3.8	—	W	$V_{DD} = 6\text{ V}$, $P_{in} = 2\text{ mW}$, $V_{apc} = 4\text{ V}$, $T_c = 25^\circ\text{C}$, $R_g = R_1 = 50\ \Omega$
Isolation	—	—	-50	-40	dBm	$V_{DD} = 6\text{ V}$, $P_{in} = 2\text{ mW}$, $V_{apc} = 0.5\text{ V}$, $T_c = 25^\circ\text{C}$, $R_g = R_1 = 50\ \Omega$
Switching time	—	—	10		μs	$V_{DD} = 6\text{ V}$, $P_{in} = 2\text{ mW}$ $P_{out} = 3\text{ W}$, $T_c = 25^\circ\text{C}$, $R_g = R_1 = 50\ \Omega$
Stability	—	No parasitic oscillation		—	—	$V_{DD} = 7.5\text{ V}$, $P_{in} = 2\text{ mW}$, $P_{out} = 3\text{ W}$ (at APC controlled), $R_g = 50\ \Omega$, $t = 20\text{ s}$, $T_c = 25^\circ\text{C}$, Output VSWR = 20 all phases