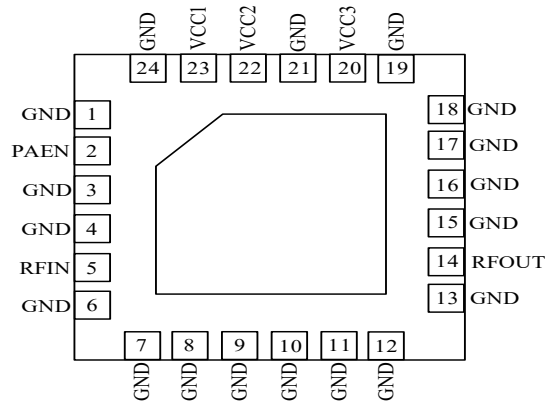


Features

- 8V to 5V Single Supply Voltage
- Frequency: 6500MHz-8500MHz
- Small signal Gain: 30dB
- Saturated Power: 32.5 to 34.5dBm @8V
Saturated Power: 29 to 31dBm @5V
- 6.0mm × 6.0mm, 24-pin, LGA package



Applications

- 5G Small Cell applications
- FDD and TDD wireless systems
- MIMO Systems
- Point-to-Point backhaul
- ISM application

Ordering Information

- AC8003 6.5GHz to 8.5GHz Power Amplifier,

Pin Description

PIN NAME	PIN NO.	DESCRIPTION
GND	1,3,4,6,7,8,9,10,11,12,13,15,16,17,18,19,21,24	Ground
RFIN	5	RF Input
PA_EN	2	Power Amplifier Enable
RFOUT	14	RF Output
VCC3	20	Supply Voltage 3
VCC2	22	Supply Voltage 2
VCC1	23	Supply Voltage 1

Absolute Minimum and Maximum Ratings

Table 2: Absolute Minimum and Maximum Ratings

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V _{CC}	Supply Voltage		8.5	V
V _{IN}	DC input on control pins (PA_EN)	0	3.6	V
RFout	RF output power, CW @8V		34.5	dBm
T _{ST}	Storage Temperature	-40	+150	°C
T _J	Junction Temperature		+160	°C

Exceeding any one or a combination of the Absolute Maximum Rating Conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may adversely affect reliability.

Recommended Operating Conditions

Table 3: Recommended Operating Conditions

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
V _{CC1} , V _{CC2} , V _{CC3}	Supply voltage		+8		V
V _{PA_EN}					
Control Logic:High	V _{IH}	1.4	1.8	3.6	V
Control Logic:Low	V _{IL}	0		0.4	V
T _{OP}	Operating temperature		+25		°C

Electrical specifications for the device are measured at specified conditions. Parametric performance is not guaranteed over all recommended operating conditions.

Logic

Table 5: Turth Table

Mode	PA_EN
Transmit	1
All Off	0

Electrical Specifications

AC8003	Ven	VCC	Idq
	1.8V	8V	480mA
Freq(MHz)	Pin(dBm)	Pout(dBm)	P(W)
6500	9.9	32.8	1.91
7000	8.9	34.6	2.86
7500	7.5	34.9	3.09
8000	7.3	34.7	2.92
8500	7.5	34.4	2.75

AC8003	Ven	VCC	Idq
	1.8V	5V	420mA
Freq	Pin(dBm)	Pout(dBm)	P(W)
6500	3.4	29.1	0.81
7000	3.5	31.0	1.26
7500	4.9	31.7	1.48
8000	6.5	31.6	1.45
8500	5.9	31.1	1.29

Solderability

Compatible with both Lead-free (260°C Max. reflow temperature) and Tin/Lead (245°C Max. reflow temperature) soldering processes.

Package lead plating: NiPdAu

RoHS Compliance

This device is compliant with the 2011/65/EU RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment), as amended by Directive 2015/863/EU.