

Features

- Fully Matched Input and Output
- 5V Single Supply Voltage
- Psat: 34 dBm (Typical)
- Small signal Gain: 28dB
- Power gain: 22dB
- Integrated DC Power Detector(Voltage Output)
- 20-pin QFN 4.0mm x 4.0mm x 0.90mm, MSL3
- RoHS Compliant & Halogen Free



20-pin 4.0 mm x 4.0 mm x 0.9 mm QFN package

■ Applications

- WLAN-Enabled Wireless Video Systems
- Tablets, Notebooks
- Wireless Routers, Access Points, Wireless Gateways
- Mobile Devices, Customer Premise Equipment(CPE)
- 802.11ax PC Cards; PCMCIA Cards; Mini-Cards and Half Mini-Cards

Ordering Information

- AC5356 6GHz to 7.5GHz Power Amplifier, MOQ=100pcs

PINNING INFORMATION

Table 1: Pin Description

PIN	NAME	DESCRIPTION	SIMPLIFIED OUTLINE
1/6/7/8/	NC	Non Connected	
2/4/11/12/14/15/ 16/17	GND	Ground	
3	RFIN	RF Input	
5	VREF	Reference Voltage	

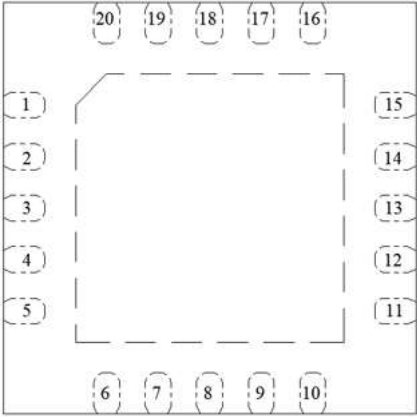
10	PDET	Power Detector (Output Voltage)	
13	RFOUT	RF Output	
9/18	VCC3	3 rd stage Supply Voltage	
19	VCC2	2 nd stage Supply Voltage	
20	VCC1	1 st stage Supply Voltage	

Figure 3: Pinout (X-ray Top View)

Absolute Minimum and Maximum Ratings

Table 2: Absolute Minimum and Maximum Ratings

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
VCC1,VCC2,VCC3	Supply Voltage	-0.3	+5.5	V
RF _{IN}	RF input power(ANT 50 Ω load),CW		+12	dBm
T _{ST}	Storage Temperature	-40	+150	°C
T _J	Junction Temperature		+170	°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.	UNIT
V _{CC3}	Supply voltage VCC3	3.0	5	5.5	V
V _{CC1} ,V _{CC2}	Supply voltage VCC1,VCC2	3.0	5	V _{CC3}	V
Control Logic:					
High	V _{REF H}	2.7	2.85	3.2	V
Low	V _{REF L}	0		0.5	
T _{OP}	Operating temperature	-40		+85	°C

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

Notes:(1) RF Output Power is used during production test.

(2) Case Temperature references the board temperature at the ground paddle on the backside of the package.

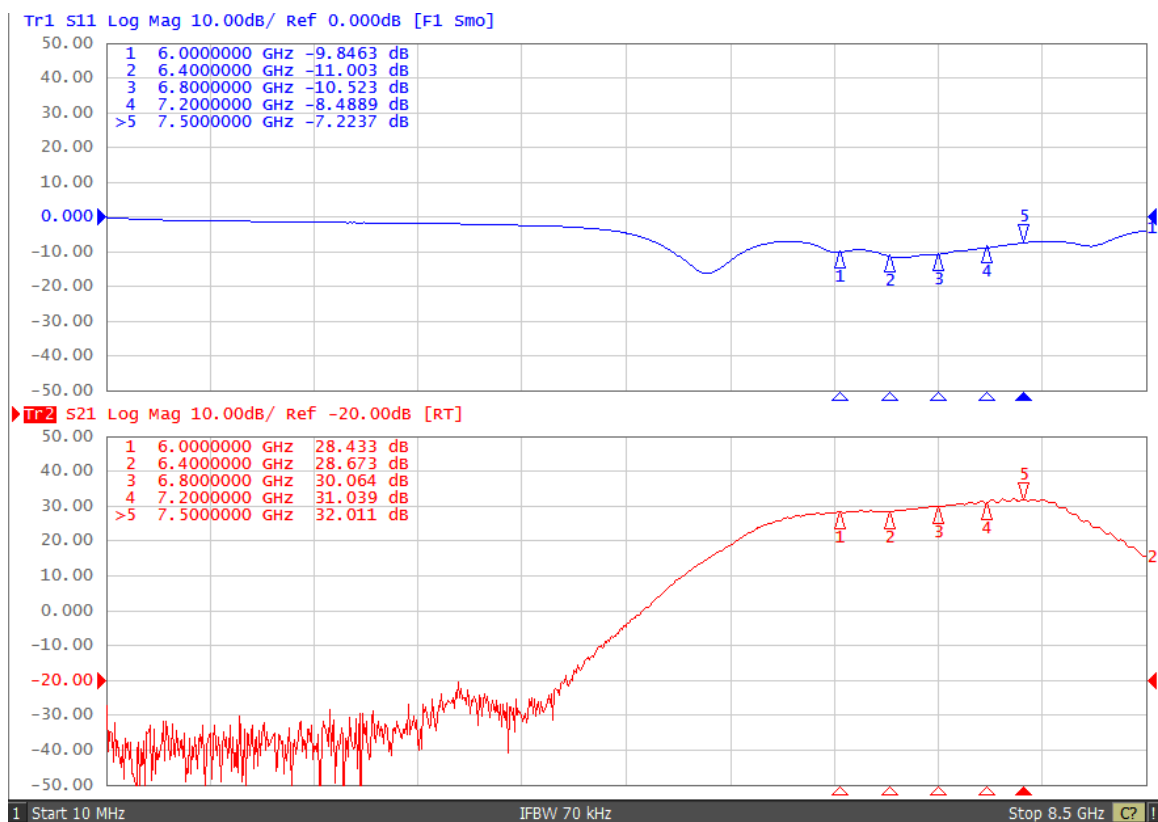
Electrical Specifications

Table 4: Electrical Specifications

(T = +25°C, V_{CC1} = V_{CC2} = V_{CC3} = +5V, All Unused Ports Terminated with 50 Ω Unless Otherwise Noted)

PARAMETER	Condition	MIN.	TYP.	MAX.	UNIT
Frequency		6000		7500	MHz
Gain	Small signal		28		dB
Quiescent Current	RF OFF		700		mA
Input Return Loss			10		dB
Output Return Loss			10		dB
Psat			34		dBm

Reference report HJ-26-11



V _{bias} /V _{cc1} / V _{cc2} / V _{cc3} =5.0V, V _{EN} =2.85V, I _{dq} =500mA					
CW					
Freq(MHz)	P-1(dBm)	P-1Gain(dB)	P-3(dBm)	P-3(W)	EFF (%)
6000	31.6	27.1	34.86	3.0	30.4
6100	31.6	27.4	34.76	3.0	29.6
6200	31.7	27.4	34.71	2.9	28.1
6300	31.7	27.6	34.70	2.9	26.9
6400	32.2	27.5	34.67	2.9	26.0
6500	32.3	27.7	34.74	3.0	25.8

6600	32.2	28.1	34.68	2.9	25.5
6700	32.5	28.6	34.85	3.1	26.1
6800	32.7	29.1	35.01	3.2	26.9
6900	33.2	29.6	35.21	3.3	28.1
7000	33.2	30.0	35.18	3.3	28.4
7100	33.0	30.4	35.08	3.2	28.3
7200	33.4	30.3	35.17	3.3	29.1
7300	33.5	30.6	35.10	3.2	29.5
7400	33.5	30.8	34.90	3.1	29.3
7500	33.4	30.8	34.52	2.8	28.6

APPLICATION INFORMATION

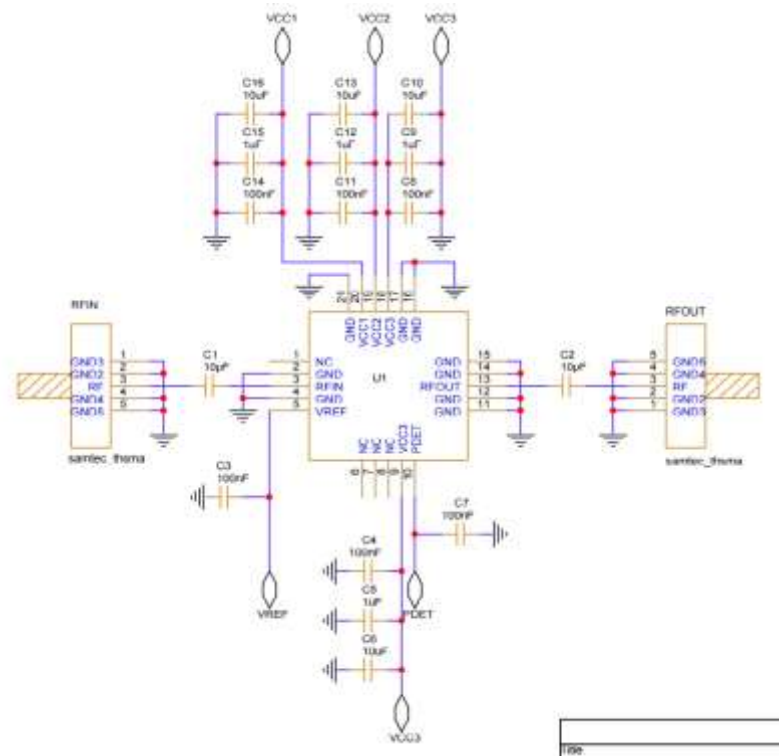
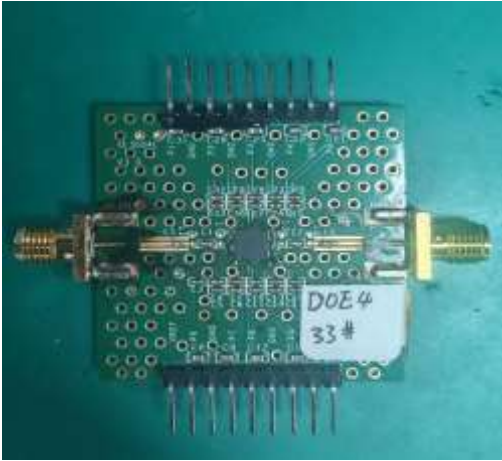


Figure 4: Application Circuit Schematic



PACKAGE OUTLINE

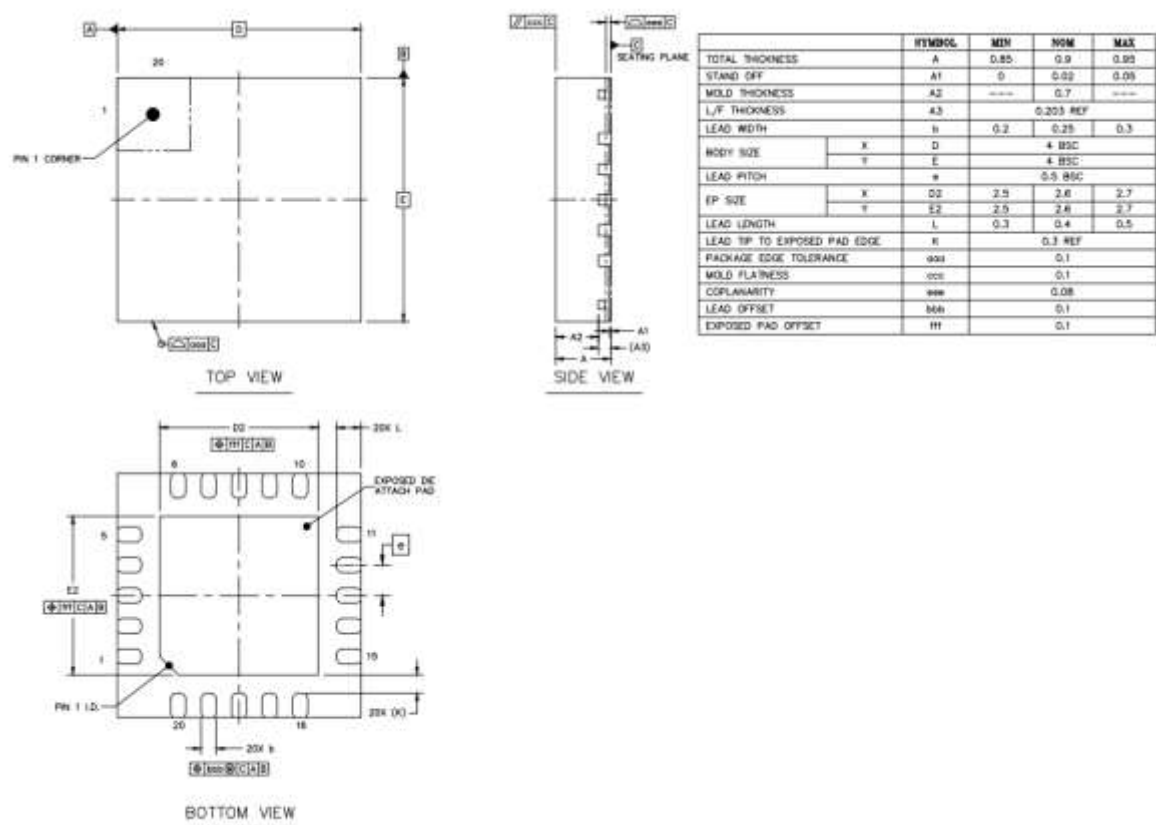


Figure 5: Package Outline

ESD PRECAUTIONS & MSL RATING

Table 6: Handling Precautions

PARAMETER	RATING	STANDARD
ESD – Human Body Model (HBM)	Class 1B	ESDA / JEDEC JS-001-2017
ESD – Charged Device Model (CDM)	Class C1	ESDA / JEDEC JS-002-2018
MSL – Moisture Sensitivity Level	Level 3	IPC/JEDEC J-STD-020



SOLDERABILITY

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

Package lead plating: Matte Tin over Copper

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.