Power Amplifier

RFA2120-03 / RFA2140-03 RFA2160-03

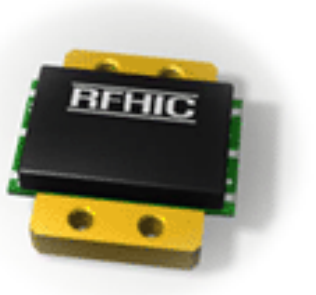
RFHIC

Product Features

- Small size by using simple matching circuit board
- Single Supply Voltage
- Heat sink 99.9% copper, gold plated
- High Productivity
- Low Manufacturing Cost
- GaAs HFET

Application

- RF Sub-Systems
- Base Station
- IMT-2000



Package : DP-36

Description

The power amplifier module is designed for base stations and cell extenders and operating frequency range is from 300MHz to 2.3GHz.
GaAs HFET is used and attached on a copper sub carrier. It is connected by using bias and in/out matching circuit method with gold wire bonding.
The bias and matching circuit are designed much simpler than other circuits for silicon IC's, LDMOS because GaAs HFET is operated by low supply voltage whereas others are operated by high supply voltage.
For better thermal conductivity, enhanced mode PCB was used in the 99.9% copper gold plate heat sink.
This simplicity results cost competitiveness and performance enhancement.

Specifications

PARAMETER	RFA2120-03	RFA2140-03	RFA2160-03
Frequency Range (MHz)	2110~2130	2130~2150	2150~2170
Small Signal Gain (dB)	24.5		
Gain Flatness (Max.)	± 0.5dB @ 50MHz BW		
Gain Variation Over Temp		± 0.7dB (Typ.)	± 1.5dB(Max.)
VSWR (Input)	2 : 1		
Output P1dB	34 dBm (Min.)	35 dBm (Typ.)	
W-CDMA (1 FA)	27dBm @ -45dBc ACLR		
W-CDMA (4 FA)	23dBm @ -45dBc ACLR		
OIP3 @ tone / 23 dBm	48 dBm (Min.)	49 dBm (Typ.)	
Noise Figure (Typ.)	3.0 dB		
Drain Voltage	9V		
Drain Current	1.0A		
Operating Temp Range	-20°C ~ +70°C		
Dimensions (W×L×H)	29.0 × 30.2 × 10.1 [mm]		

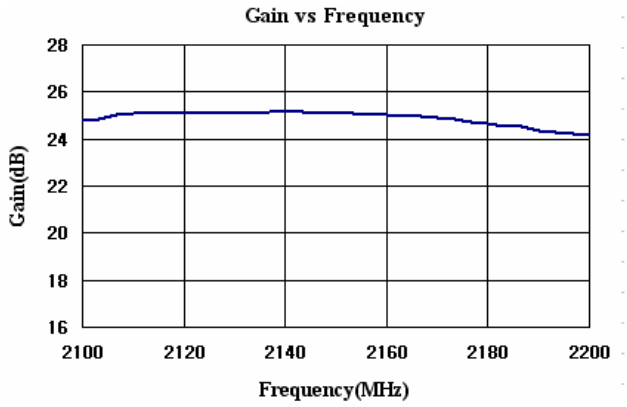
NOTE

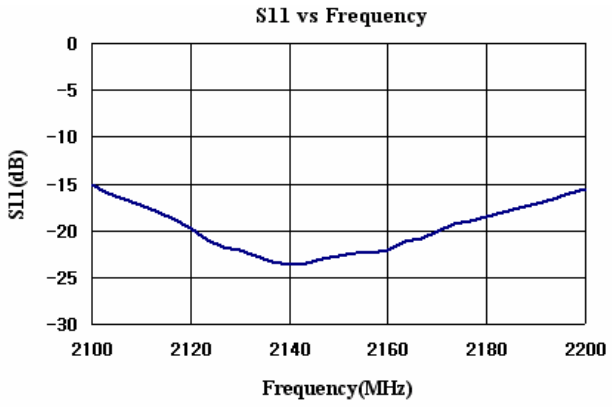
* W-CDMA : Resolution bandwidth of equipment is 30kHz. Input signal is 3GPP TS25.141 v.3.4.1 Test Model 1, Chip Rate:3.84 Mcps, 64DPCHs/Carrier, 1 carrier
  @ ±5MHz and ±10MHz offset in 30KHz resolution bandwidth
* **Operation Bandwidth** : 50MHz
* RFA Series : Internally Matched Module

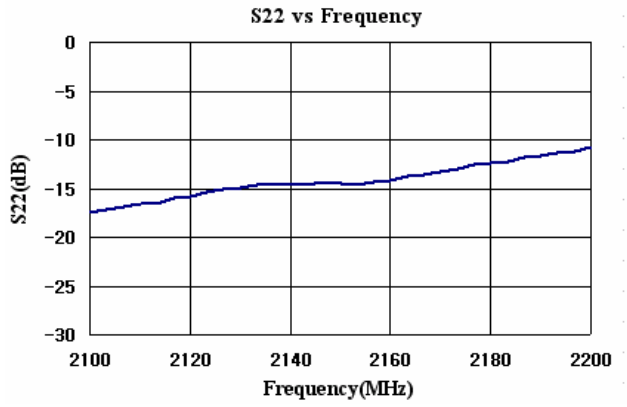
▪ Tel : 82-31-250-5011
▪ rfsales@rfhic.com

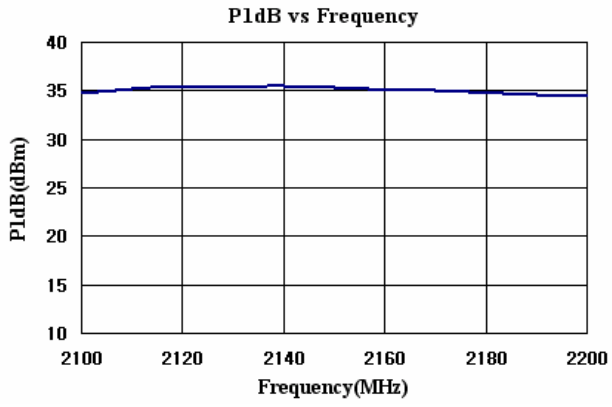
▪ Version 5.4

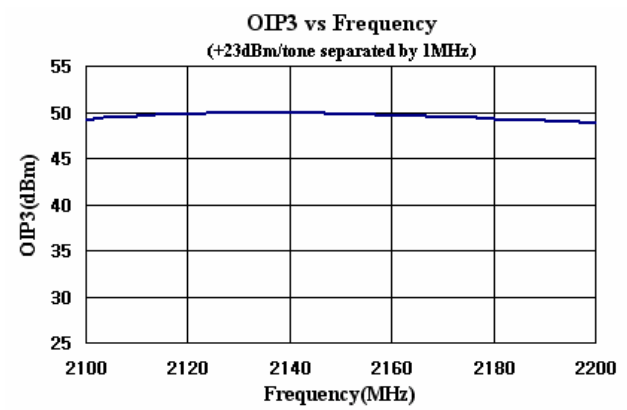
Performance Charts (V_d=9V, I_d=1.0A, T=25℃)

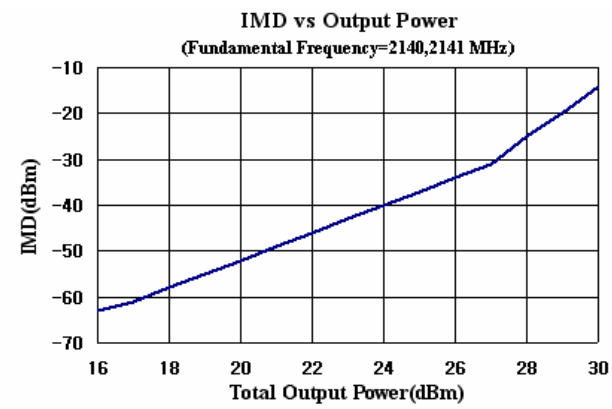


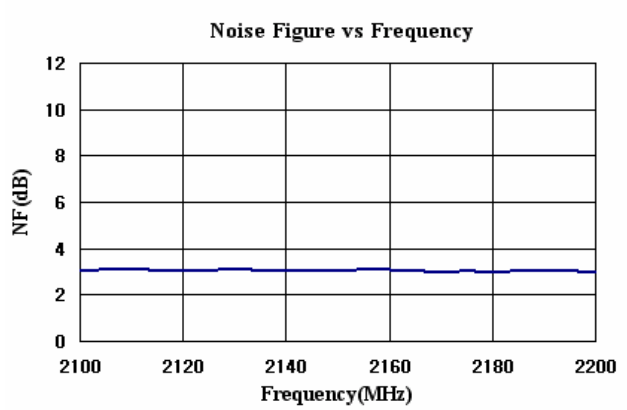


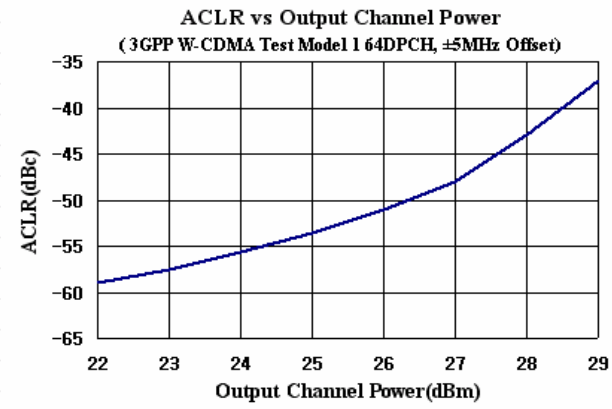




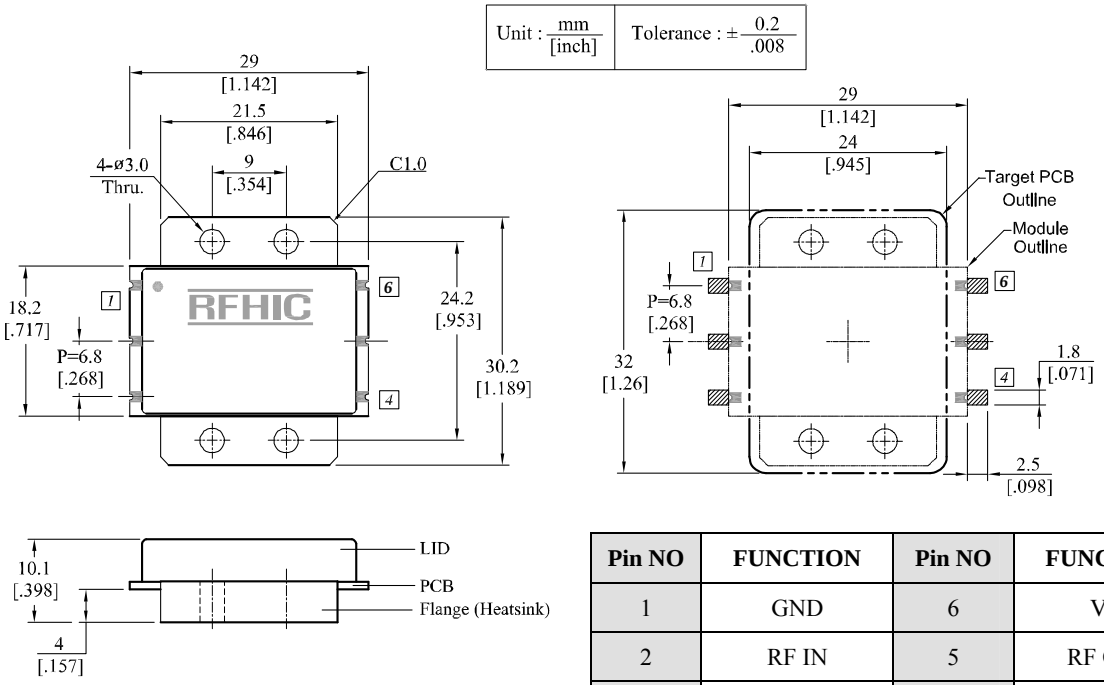






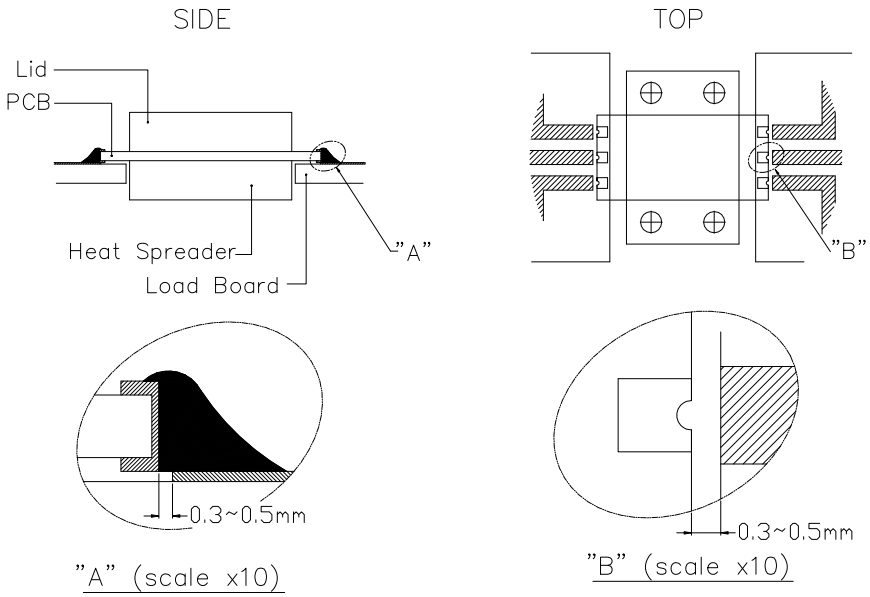


Package Dimensions (Type: DP-36)



Pin NO	FUNCTION	Pin NO	FUNCTION
1	GND	6	Vcc
2	RF IN	5	RF OUT
3	E/N	4	GND

Installation Guideline



★ It can be easily removed with solder wick and other removable material.