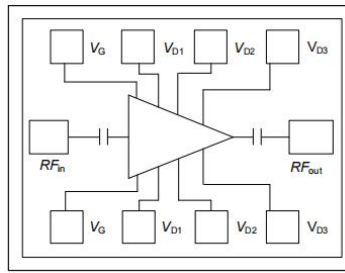


### Performance

- Frequency: 18~40GHz
- Typical Signal Gain: 21dB
- Typical Pout: 32.5dBm@20V
- Typical PAE: 18%
- Bias: 20V, -1.4V (Typ.)
- Technology: 0.15um HEMT
- Size: 2.8\*1.2mm\*0.05mm

### Function Diagram



### Electrical Specifications (TA=25°C, Vd=20V, Vg= -1.4V, F:18~40GHz, Pin=20dBm)

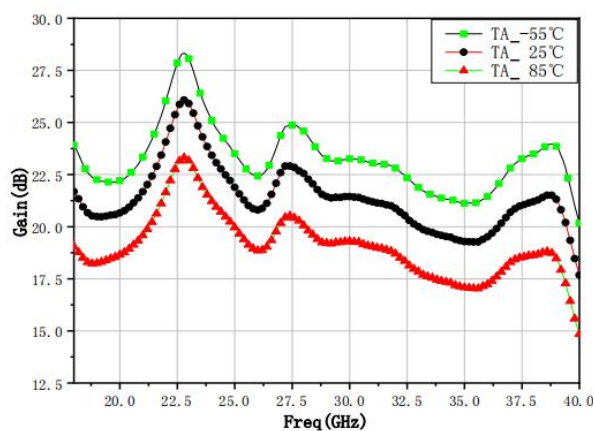
Symbol	Parameter	Min	Typical	Max	Unit
G	Small Signal Gain	-	21	-	dB
Gp	Power Gain	-	17.5	-	dB
Pout	Saturated Power	-	32.5	-	dBm
Id	Dynamic Current	-	0.55	-	A
PAE	Power Added Efficiency	-	18	-	%

### (TA=25°C, Vd=20V, Vg= -1.4V, F:18~40GHz, Pin=15dBm)

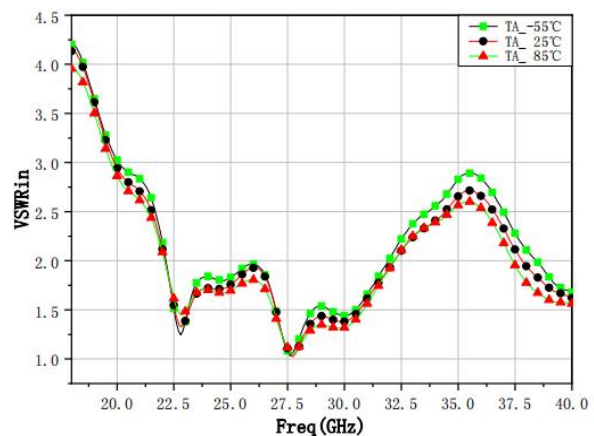
Symbol	Parameter	Min	Typical	Max	Unit
G	Small Signal Gain	-	21	-	dB
Gp	Power Gain	-	17.5	-	dB
Pout	Saturated Power	-	32.5	-	dBm
Id	Dynamic Current	-	0.55	-	A
PAE	Power Added Efficiency	-	18	-	%

### Test Curves

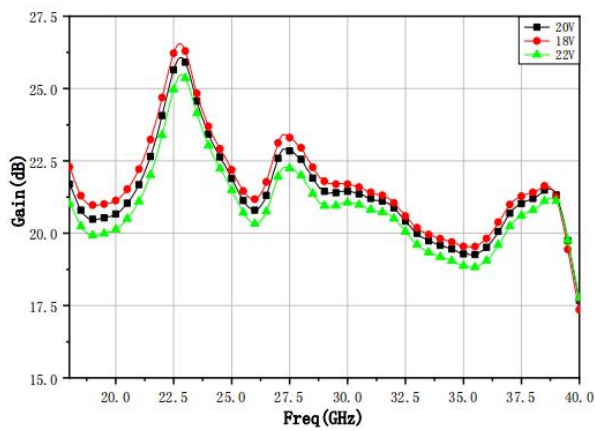
Small Signal Gain@ Different Temp



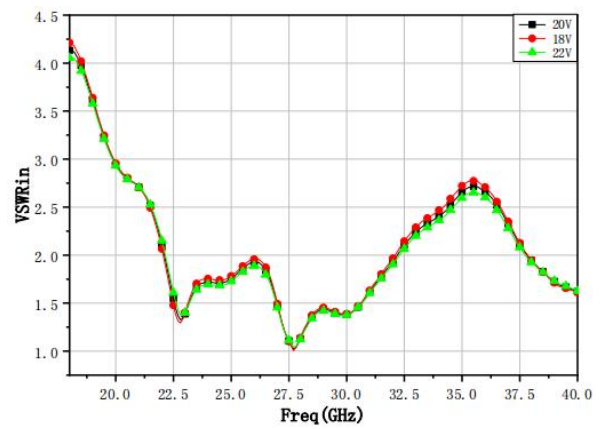
VSWRin@ Different Temp



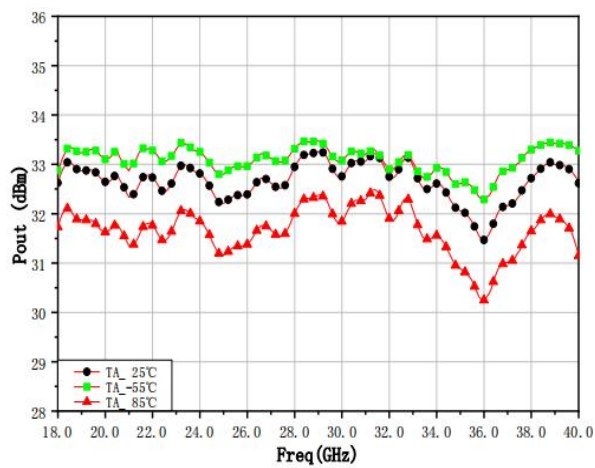
Small Signal Gain@ Different Vd



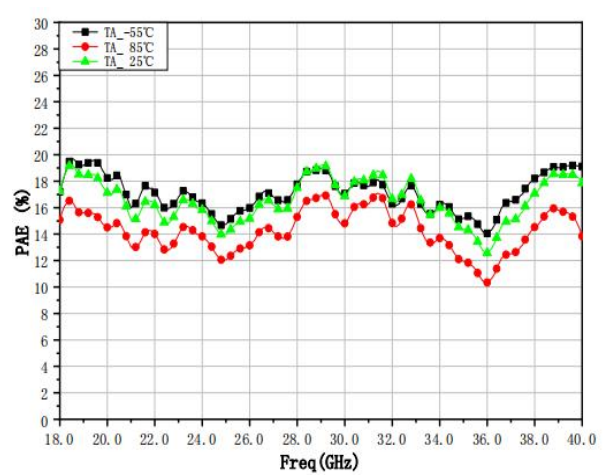
VSWRin@ Different Vd



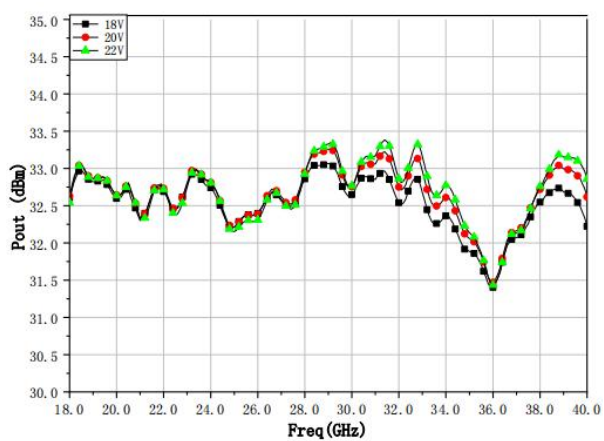
Pout@ Different Temp



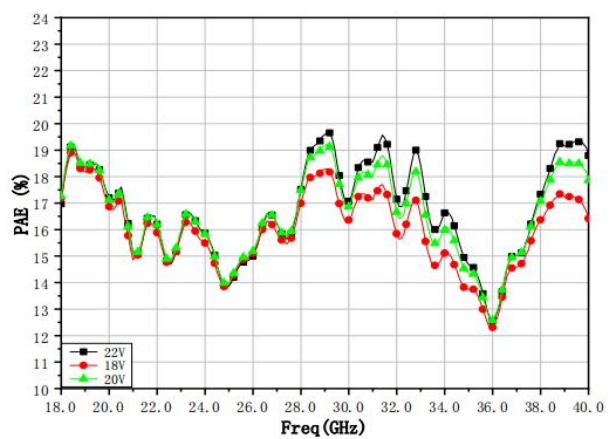
PAE@ Different Temp



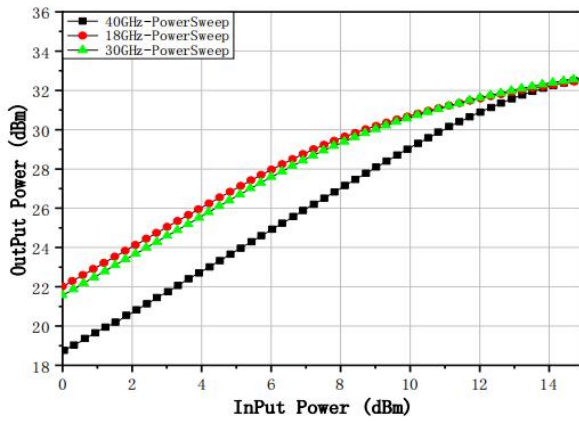
Pout@ Different Vd



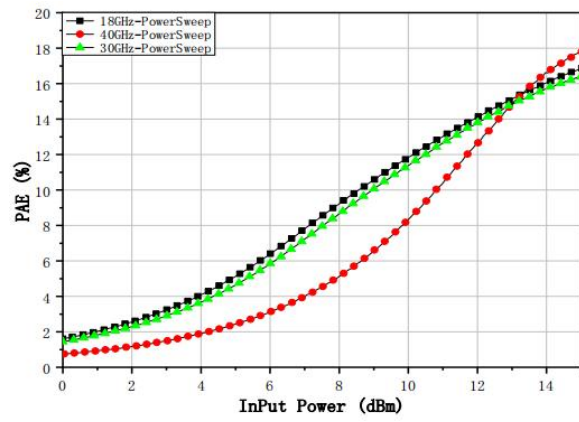
PAE@ Different Vd



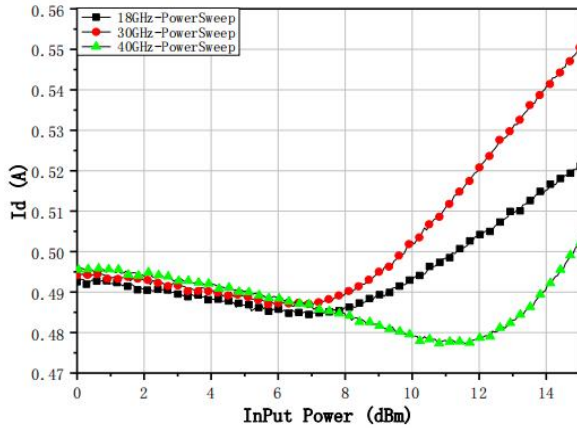
Pout@ Different Pin



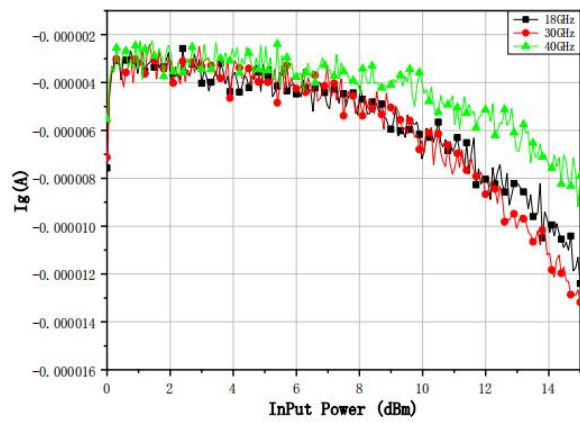
PAE@ Different Pin



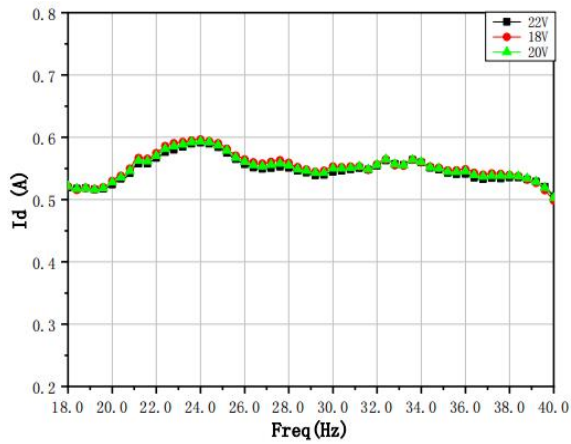
Id@ Different Pin



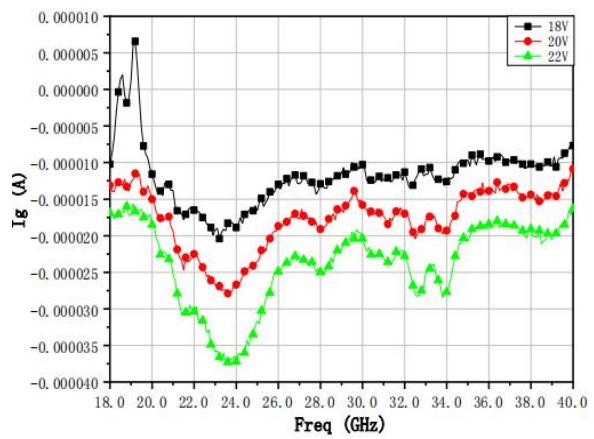
Ig@ Different Pin



Id@ Different Vd



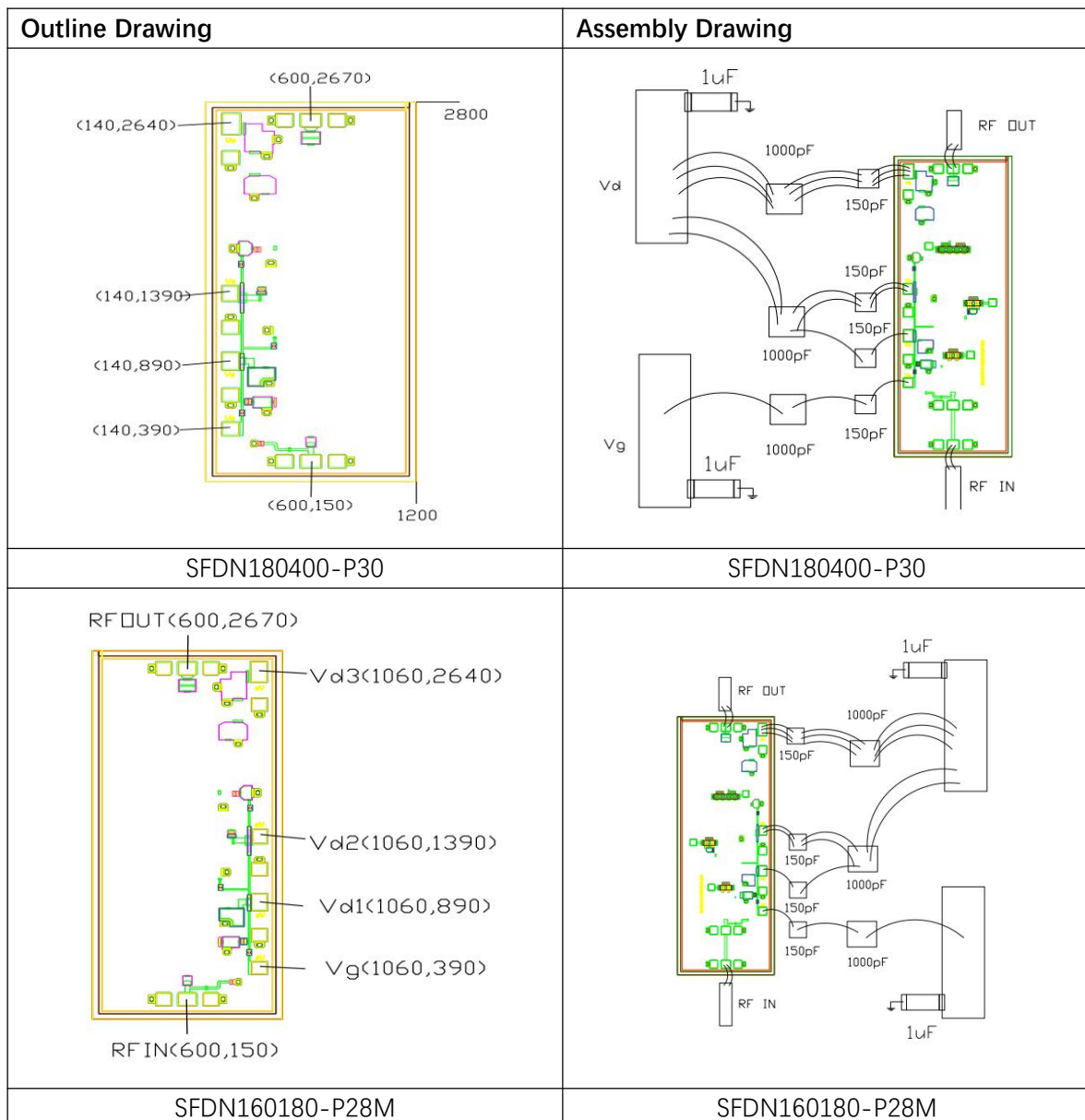
Ig@ Different Vd



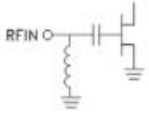

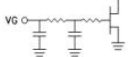

**Absolute Max Ratings (TA=25°C)**

Symbol	Parameter	Value	Remark
Vd	Drain Voltage	24V	
Id	Drain Current	1A	
Vg	Gate Voltage	-10V	
Ig	Gate Current	10mA	
Pd	DC Power	20W	
Pin	Input Power	17dBm	
Tch	Channel Temperature	225°C	
Tm	Mounting Temperature	310°C	1 min, N2 Protection
Tstg	Storage Temperature	-55~175°C	

Exceeding any one or combination of these limits may cause permanent damage.



### Pads Definition

Pad	Description	Equivalent Circuit
RFin	RF Signal input, connect to 50ohm system, no need block capacitor.	
RFout	RF Signal output, connect to 50ohm system, no need block capacitor.	
VG、VG1	Amp gate bias, external 1000pF capacitor is needed	
VD、VD1、VD2、VD3、VD4	Amp drain bias, external 100pF capacitor is needed	
GND	Bottom must connect to RF and DC ground	