PRELIMINARY

Notice : This is not a final specification
Some parametric limits are subject to change.

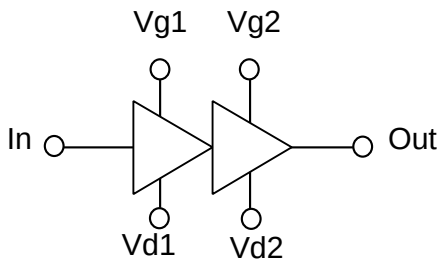
MGFC5211

K-Band 2-Stage Power Amplifier

DESCRIPTION

The MGFC5211 is a GaAs MMIC chip especially designed for 21.2 ~ 23.6 GHz band High Power Amplifier (HPA) .

BLOCK DIAGRAM



FEATURES

- RF frequency : 21.2 to 23.6 GHz
- Linear gain : ≥ 13 dB
- P1dB : ≥ 23 dBm
- DC power : Vd = 5 V, Id1 + Id2 = 270 mA

ABSOLUTE MAXIMUM RATINGS (Ta = 25 ˚C)

Symbol	Parameter	Ratings	Units
Vd1, Vd2	Drain supply voltage	6	V
Vg1, Vg2	Gate supply voltage	-3 ~ 0.5	V
Id1	Drain current 1	120	mA
Id2	Drain current 2	240	mA
Pin	RF input power	16	dBm
Ta	Backside ambient temp.	-20 ~ +70	˚C
Tstg	Storage temp.	-65 ~ +175	˚C
Tmax	Maximum assembly temp.	+300	˚C

ELECTRICAL CHARACTERISTICS (Ta = 25 ˚C)

Symbol	Parameter	Conditions	Limits			Units
			Min.	Typ.	Max.	
Gain	Gain	Vd = 5 V Id1 = 90 mA Id2 = 180 mA (RF off)	13.0			dB
VSWR in	Input VSWR				2.2	-
VSWR out	Output VSWR				2.2	-
P1dB	Output power at 1 dB compression point	f = 21.2, 23.6 GHz Single tone	23.0			dBm
IM3	Inter modulation level	f = 21.2, 23.6 GHz Tow tone(10MHz off) Pout = 20 dBm	(22.0)			dBc

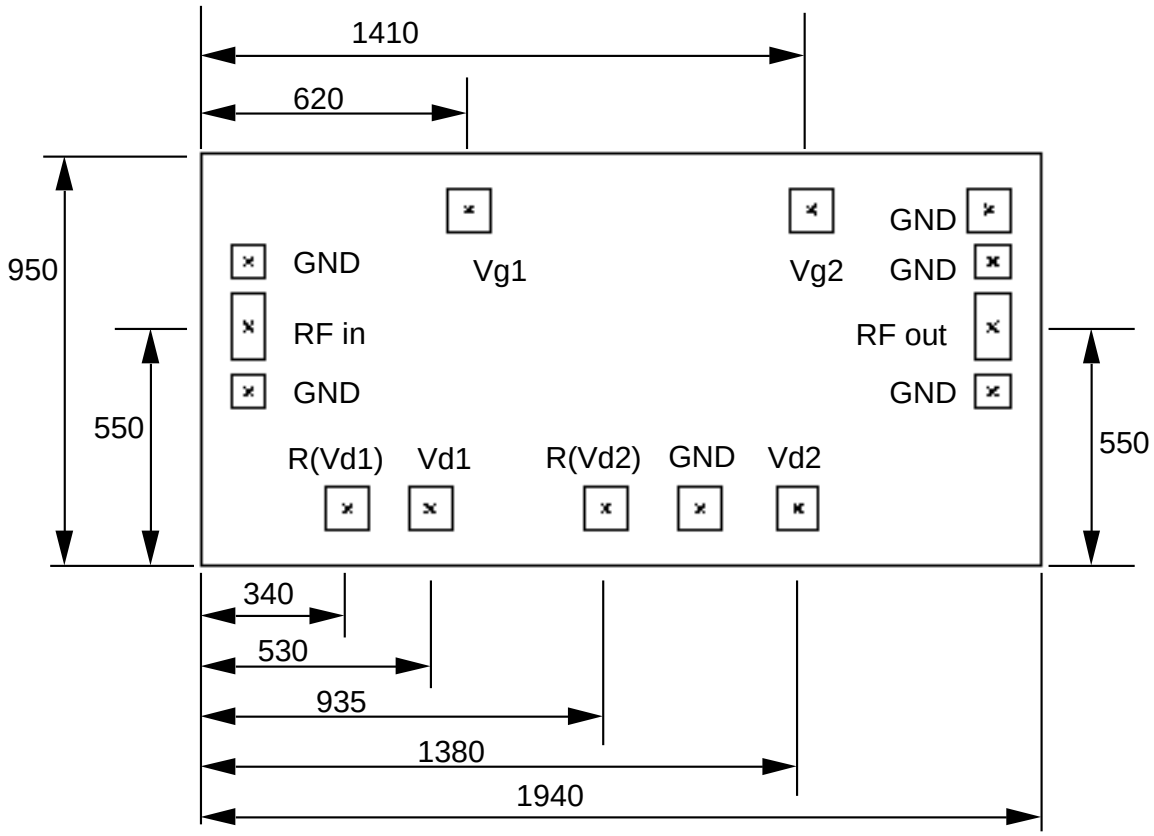
PRELIMINARY

Notice : This is not a final specification
Some parametric limits are subject to change.

MGFC5211

K-Band 2-Stage Power Amplifier

DIE SIZE AND BOND PAD LOCATION(UNIT : µM)

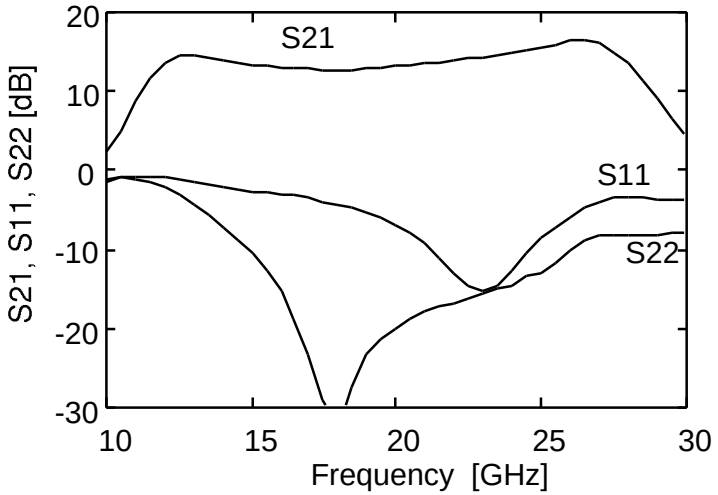


X Dimention 1.94 mm
Y Dimention 0.95 mm

TYPICAL CHARACTERISTICS

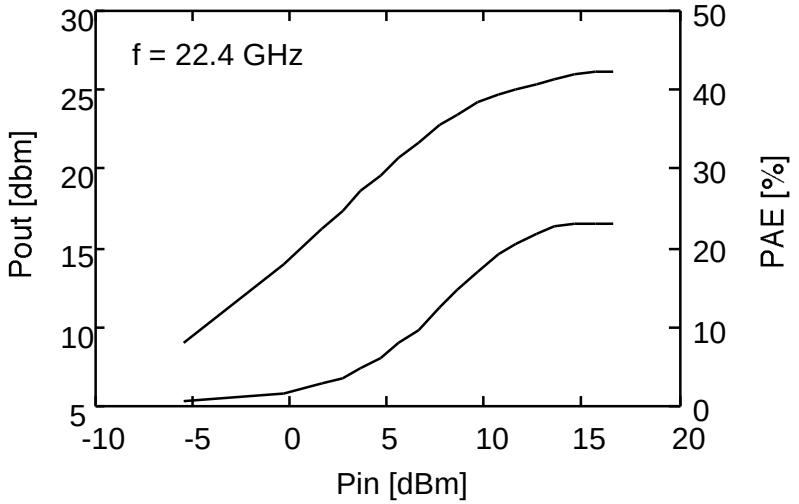
Small Signal Performances

(Vd = 5 V, Id1 = 90 mA, Id2 = 180 mA, Ta = 25 ˚C)

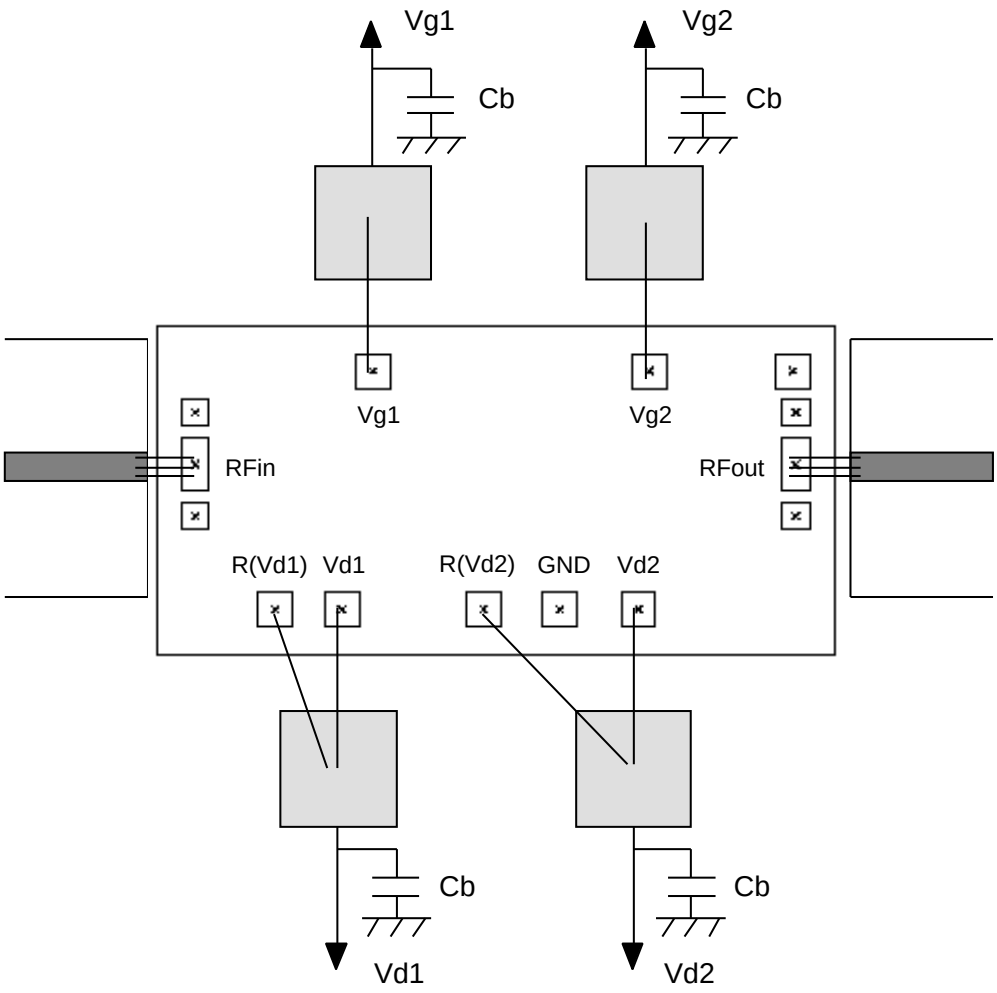


Output Power Performances

(Vd = 5 V, Id1 = 90 mA, Id2 = 180 mA, Ta = 25 ˚C)



AN EXAMPLE OF TEST CIRCUIT



: Chip Condenser (39 pF)

Cb > 100 µF