PRELIMINARY

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

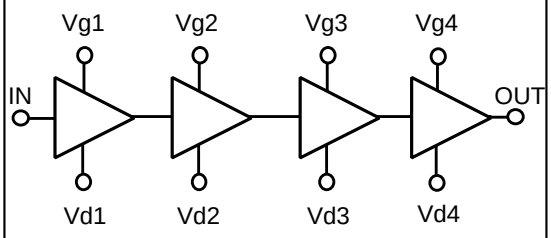
MGFC5216

Q-Band 4-Stage Driver Amplifier

DESCRIPTION

The MGFC5216 is a GaAs MMIC chip especially designed for 37.0 ~ 40.0 GHz band Middle Power Amplifier (MPA) .

BLOCK DIAGRAM



FEATURES

- RF frequency : 37.0 to 43.0 GHz
- Linear gain : 20dB (TYP.)@ 37 to 40 GHz
  20 dB(TYP.) @ 40 to 43 GHz
- P1dB : ≥ 16 dBm(min.) @ 37 to 40 GHz
  ≥ 16 dBm(target) @ 40 to 43 GHz

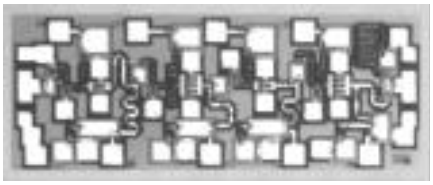
TARGET SPECIFICATIONS (Ta=25˚C)

Parameter	Min.	Typical	Max.	Unit
Frequeny	37	—	40	GHz
Linear Gain	—	20	—	dB
P1dB	16	—	—	dBm
Input VSWR	—	—	2.2	—
Output VSWR	—	—	2.0	—
Vd	Vd12=4.5, Vd34=6			V
Vg	-0.3			V
Chip Size	1.99x0.83			mm^2

Specification	Min.	Typical	Max.	Unit
Frequeny	40	—	43	GHz
Linear Gain	—	20	—	dB
P1dB	(16)	—	—	dBm
Input VSWR	—	—	2.4	—
Output VSWR	—	—	3.0	—
Vd	Vd12=4.5, Vd34=6			V
Vg	-0.3			V
Chip Size	1.99x0.83			mm^2

( ):Design Target (Now Evaluating)

PHOTOGRAPH



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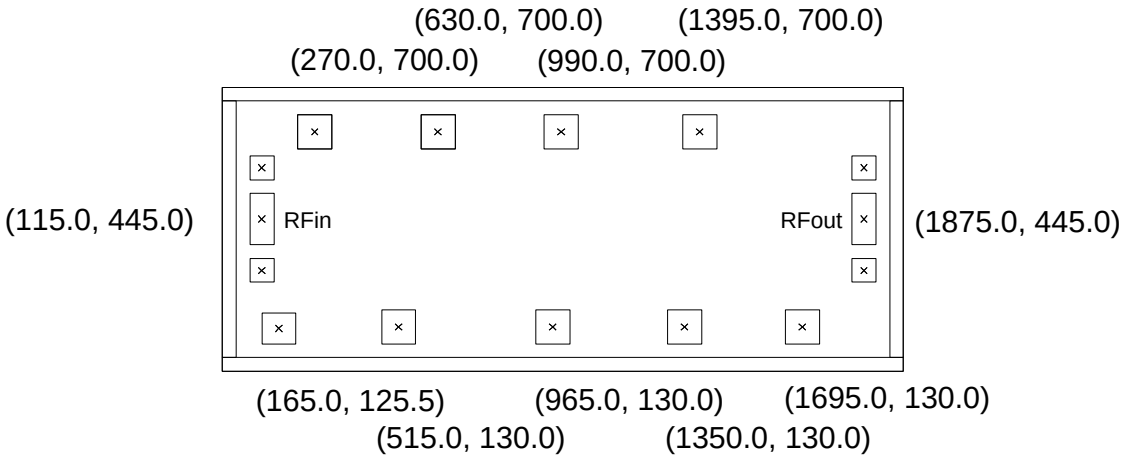
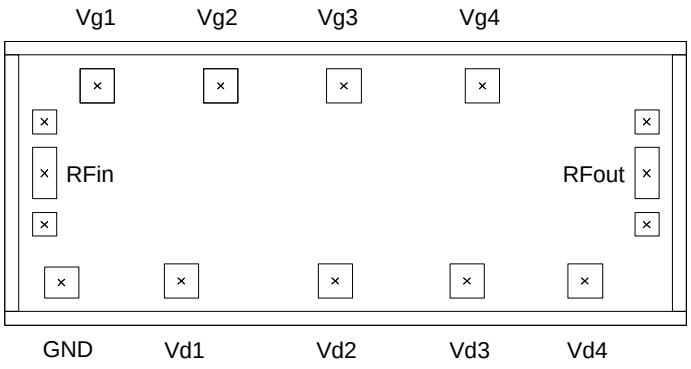
DIE SIZE AND BOND PAD LOCATION(UNIT : µM)

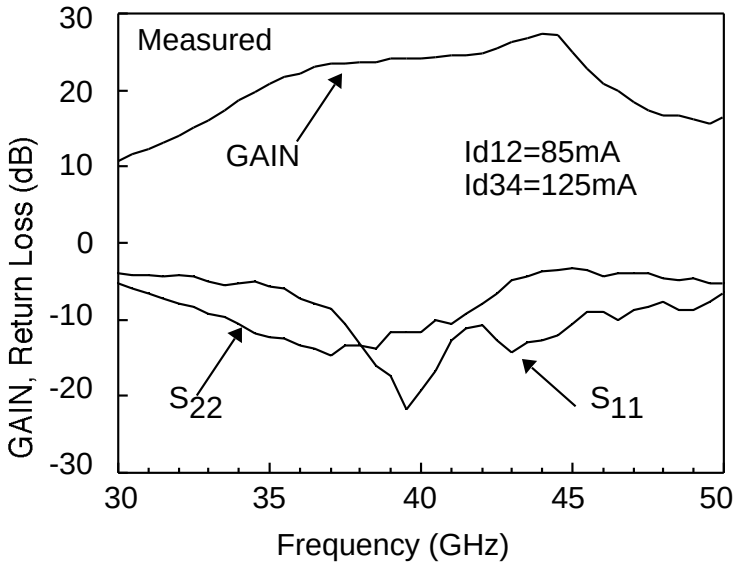
X=1.99 mm
Y=0.83 mm
Bond Pad Dimension=0.07 x 0.15 mm^2 (RF)
0.1 x 0.1 mm^2 (DC)



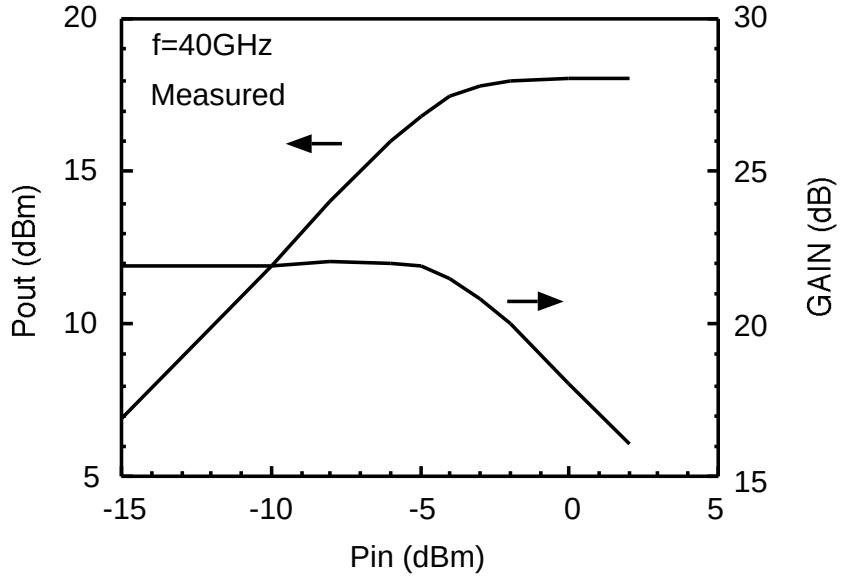


TYPICAL CHARACTERISTICS

S-Parameter vs. Frequency



Output Power Performances



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AN EXAMPLE OF TEST CIRCUIT