

PRELIMINARY

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

MITSUBISHI SEMICONDUCTOR <GaAs MMIC>

MGFC5217

K-Band 2-Stage Power Amplifier

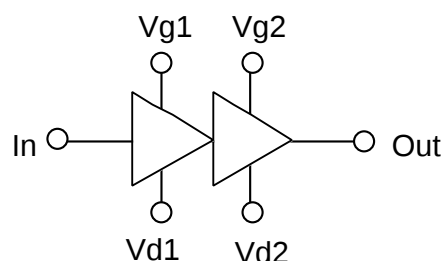
DESCRIPTION

The MGFC5217 is a GaAs MMIC chip especially designed for 18.0 ~ 19.0 GHz band Middle Power Amplifier (MPA) .

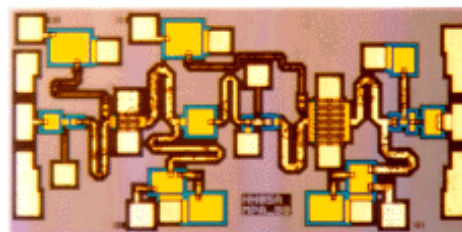
FEATURES

- RF frequency : 18.0 to 19.0 GHz
- P2dB : ≥ 25.5 dBm(TYP.) @ 18.0 to 19.0 GHz

BLOCK DIAGRAM



PHOTOGRAPH



TARGET SPECIFICATIONS (Ta=25°C)

Symbol	Parameter	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS1	Drain Saturation Current	Vd=3.0V	80	-	140	mA
IDSS2	Drain Saturation Current		300	-	540	mA
Vp1	Pinch Off Voltage	Vd=3.0V, Id=0.032mA	-2.0	-	-1.0	V
Vp2	Pinch Off Voltage	Vd=3.0V, Id=0.12mA	-2.0	-	-1.0	V
P3dB	Output Power at 3 dB Compression Point	f=18.0-19.0 GHz, Vd1=Vd2=5V , Id1=40mA* , Id2=180mA*	-	25.5	-	dBm
Gain	Gain		-	17.0	-	dB
Input Return Loss	Input Return Loss		-	6.0	-	dB
Output Return Loss	Output Return Loss		-	6.0	-	dB
IM3	Inter Modulation Level	f=18.0-19.0 GHz, Vd1=Vd2=5V , Id1=40mA* , Id2=180mA*	-	TBD	-	dBc

* : Ids at RF off



MITSUBISHI
ELECTRIC

as of July '98

PRELIMINARY

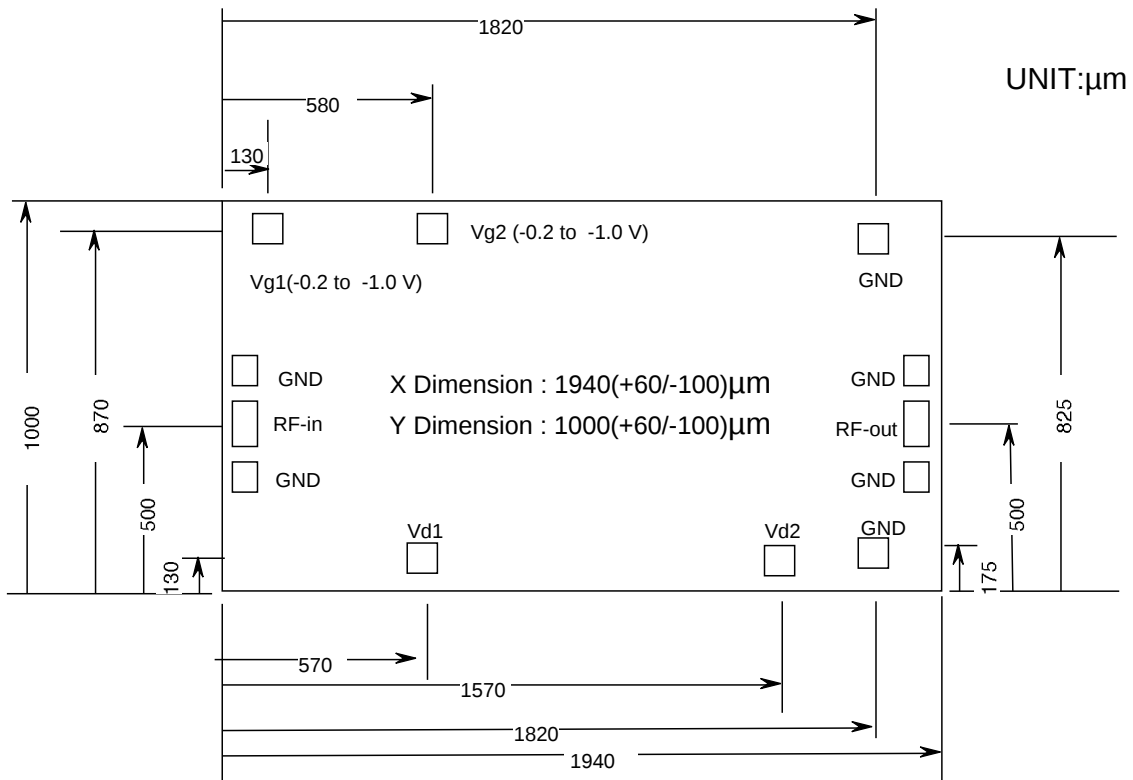
Notice : This is not a final specification
Some parametric limits are subject to change.

mitsubishi SEMICONDUCTOR <GaAs MMIC>

MGFC5217

K-Band 2-Stage Power Amplifier

DIE SIZE AND BOND PAD LOCATION(UNIT : μM)



MITSUBISHI
ELECTRIC

as of July '98

PRELIMINARY

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

MITSUBISHI SEMICONDUCTOR <GaAs MMIC>

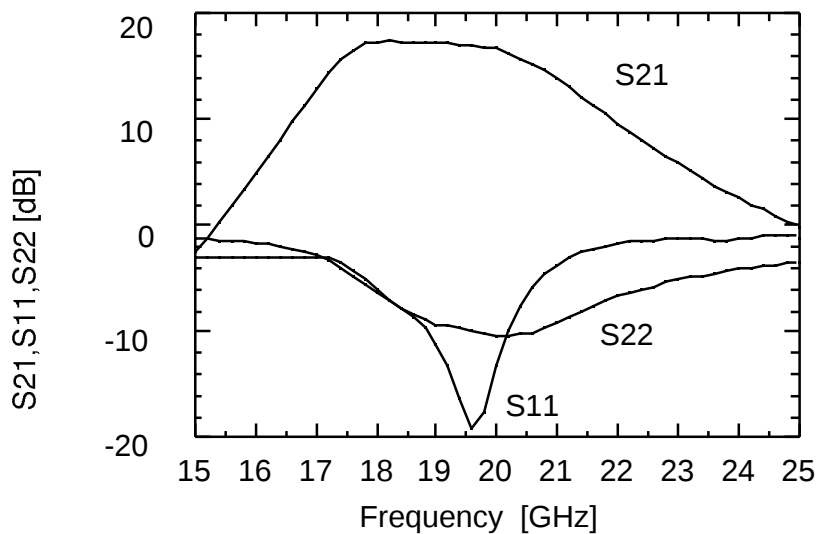
MGFC5217

K-Band 2-Stage Power Amplifier

TYPICAL CHARACTERISTICS

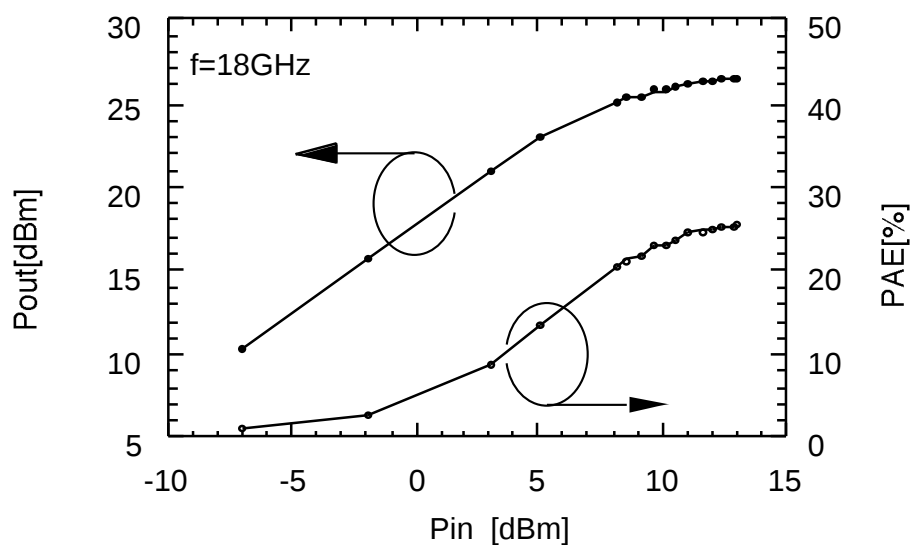
S-Parameter vs. Frequency

($V_d = 5\text{ V}$, $I_{ds} = 220\text{ mA}$, $T_a = 25\text{ degrees C.}$)



Output Power Performances

($V_d = 5\text{ V}$, $I_{ds} = 220\text{ mA}$, $T_a = 25\text{ degrees C.}$)



MITSUBISHI
ELECTRIC

as of July '98