

Integrated Circuit

FA11201

low noise amplifier IC

6V / 300mW

DATASHEET

OEM –Mitsubishi

Source: Mitsubishi Databook 1989

MITSUBISHI SEMICONDUCTOR <GaAs FET>
FA11201
GaAs FET LOW NOISE AMPLIFIER MODULE

DESCRIPTION

The FA11201 is Low Noise, High Gain Amplifier Module used for the out door unit of Microwave Receiver.

This module is 2-stage low noise GaAs FET amplifier and operates only by controlling DRAIN current with GATE bias voltage.

FEATURES

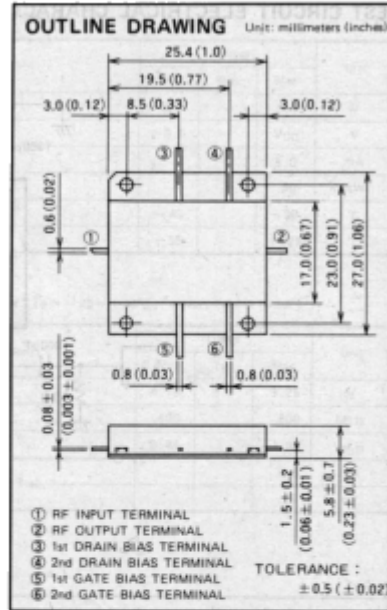
- High Gain, Low noise
 $G_p = 18\text{dB (TYP.) @ } 10.9 \sim 11.7\text{GHz}$
 $NF = 2.3\text{dB (TYP.) @ } 10.9 \sim 11.7\text{GHz}$
- Low Power Dissipation
 3V, 25mA

APPLICATION

Out door unit of microwave receiver

QUALITY GRADE

- GG



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Ratings	Unit
V_{DD}	DC supply voltage (Note 1)	6	V
V_{GG}	GATE bias voltage (Note 2)	-5	V
I_D	Dissipation current	50	mA
P_{in}	Input power	-20	dBm
P_T	Total power dissipation (Note 3)	300	mW
T_{opr}	Operating temperature	-30 ~ +60	°C
T_{stg}	Storage temperature	-40 ~ +70	°C

Note 1. $V_{GG} = 0V$
 2. $V_{DD} = 0V$
 3. Maximum power dissipation per one GaAs FET is 150mW.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

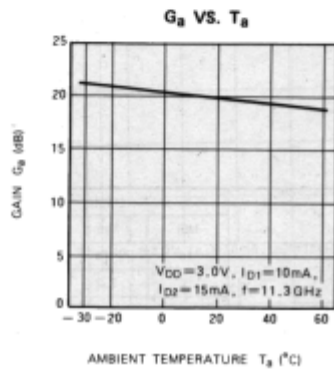
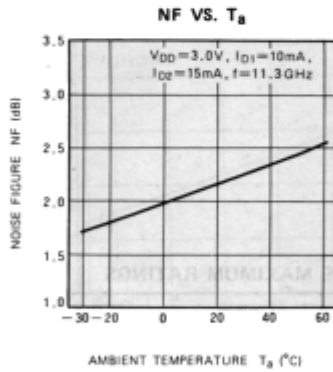
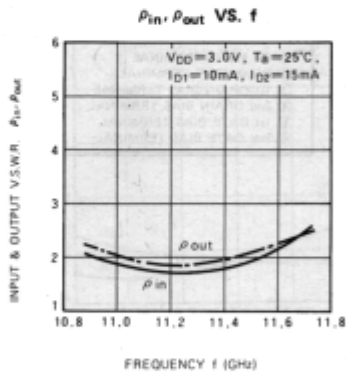
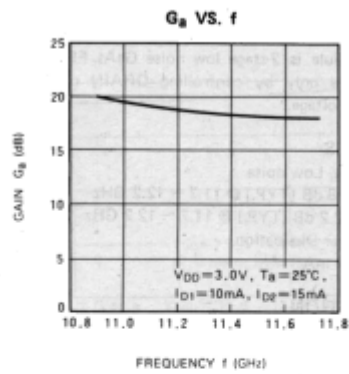
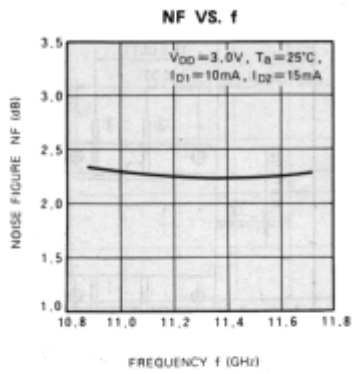
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
G_a	Gain	$V_{DD} = 3V, I_{D1} = 10mA, I_{D2} = 15mA$ $Z_G = 50 \Omega, Z_L = 50 \Omega, f = 10.9 \sim 11.7GHz$	16	18		dB
NF	Noise figure			2.3	2.4	dB
P_{in}	Input VSWR			2.5	4.0	—
P_{out}	Output VSWR			2.5	4.0	—

I_{D1} : 1st stage DRAIN current I_{D2} : 2nd stage DRAIN current

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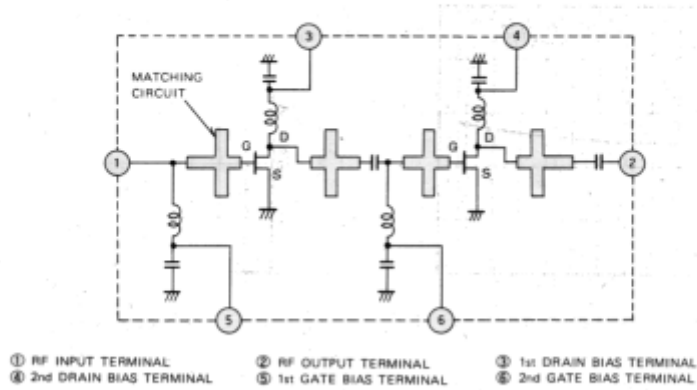
TYPICAL CHARACTERISTICS



MITSUBISHI SEMICONDUCTOR (GaAs FET)
FA11 and 12 Series

GaAs FET LOW NOISE AMPLIFIER MODULE

EQUIVALENT CIRCUIT



BIAS CIRCUIT

