

Preliminary

MITSUBISHI SEMICONDUCTOR<GaAs FET>

MGF0916A

L & S BAND GaAs FET [SMD non - matched]

DESCRIPTION

The MGF0916A GaAs FET with an N-channel schottky Gate, is designed for use UHF band amplifiers.

FEATURES

- High output power
Po=23dBm(TYP.) @f=1.9GHz,Pin=5dBm
- High power gain
Gp=19dB(TYP.) @f=1.9GHz
- High power added efficiency
ηadd=30%(TYP.) @f=1.9GHz,Pin=5dBm
- Hermetic Package

APPLICATION

- For UHF Band power amplifiers

QUALITY

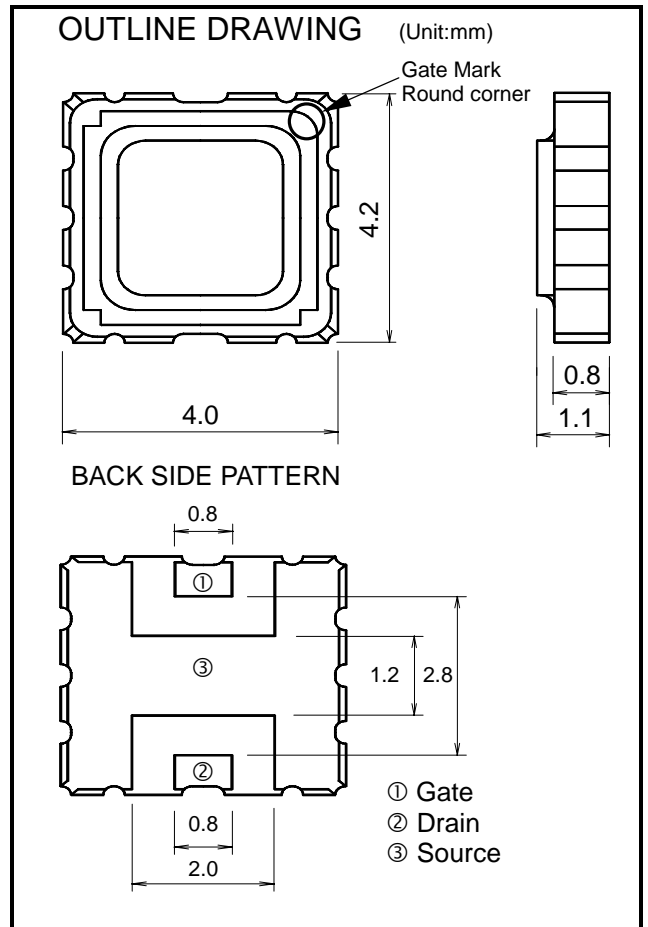
- GG

RECOMMENDED BIAS CONDITIONS

- Vds=6V
- Ids=100mA
- Rg=1kΩ

Absolute maximum ratings

| Symbol | Parameter | Ratings | Unit |
|--------|----------------------------------|-------------|------|
| VGSO | Gate to source breakdown voltage | -8 | V |
| VGDO | Gate to drain breakdown voltage | -8 | V |
| ID | Drain current | 250 | mA |
| IGR | Reverse gate current | -0.6 | mA |
| IGF | Forward gate current | 1.5 | mA |
| PT | Total power dissipation | 1.2 | W |
| Tch | Channel temperature | 175 | °C |
| Tstg | Storage temperature | -65 to +175 | °C |



Electrical characteristics

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|-----------|--------------------------------|--------------------------|--------|------|------|------|
| | | | Min. | Typ. | Max. | |
| IDSS | Saturated drain current | VDS=3V,VGS=0V | 150 | 200 | 250 | mA |
| VGS(off) | Gate to source cut-off voltage | VDS=3V,ID=0.1mA | -1.5 | - | -4.5 | V |
| gm | Transconductance | VDS=3V,ID=100mA | - | 90 | - | mS |
| Po | Output power | VDS=6V,ID=100mA,f=1.9GHz | - | 23 | - | dBm |
| ηadd | Power added Efficiency | Pin=5dBm | - | 30 | - | % |
| GLP | Linear Power Gain | VDS=6V,ID=100mA,f=1.9GHz | - | 19 | - | dB |
| NF | Noise figure | | - | 2.0 | - | dB |
| Rth(ch-c) | Thermal Resistance *1 | ΔVf Method | - | - | TBD | °C/W |

*1:Channel to case / Above parameters, ratings, limits are subject to change.

MGF0916A TYPICAL CHARACTERISTICS

