

< L/S band internally matched power GaAs FET >

MGFS45B2527B

2.5 – 2.7 GHz BAND / 30W

DESCRIPTION

The MGFS45B2527B is an internally impedance-matched GaAs power FET especially designed for use in 2.5 – 2.7 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

FEATURES

- Class AB operation
- Internally matched to 50(ohm) system
- High output power
Po(SAT)=30W (TYP.) @f=2.5 – 2.7GHz
- High power gain
GLP=12.5dB (TYP.) @f=2.5 – 2.7GHz
- Low distortion
EVM=1.0% (TYP.) @f=2.5 – 2.7GHz, Po=34dBm
EVM=2.0% (TYP.) @f=2.5 – 2.7GHz, Po=37dBm

RECOMMENDED BIAS CONDITIONS

- VDS=12V • ID=0.9A • RG=12ohm

Absolute maximum ratings (Ta=25°C)

| Symbol | Parameter | Ratings | Unit |
|--------|----------------------------------|-------------|------|
| VGDO | Gate to drain breakdown voltage | -15 | V |
| VGSO | Gate to source breakdown voltage | -10 | V |
| MAX ID | Maximum drain current | 10 | A |
| PT *1 | Total power dissipation | 78 | W |
| Tch | Channel temperature | 175 | °C |
| Tstg | Storage temperature | -65 to +175 | °C |

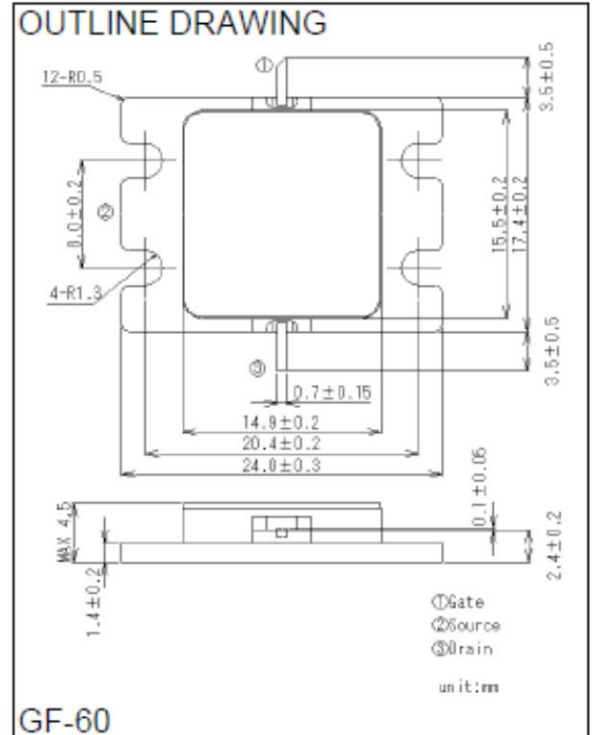
*1 : Tc=25°C

Electrical characteristics (Ta=25°C)

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|--------------|--------------------------------|----------------------------|--------|------|------|------|
| | | | Min. | Typ. | Max. | |
| VGS(off) | Gate to source cut-off voltage | VDS=3V, ID=100mA | -0.5 | - | -3.0 | V |
| Po(SAT) | Output power | VDS=12V, ID(RF off)=0.9A | - | 45 | - | dBm |
| GLP | Linear Power Gain | f=2.5 – 2.7GHz, Pout=34dBm | 10 | 12.5 | - | dB |
| ID | Drain current | | - | - | 1.5 | A |
| EVM *2 | Error vector Magnitude | | - | 1.0 | 2.0 | % |
| Rth(ch-c) *3 | Thermal resistance | Delta Vf method | - | 1.1 | 1.9 | °C/W |

*2 : WiMAX Downlink, 64QAM-3/4, Channel Bandwidth:6MHz

*3 : Channel-case



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