

< L/S band internally matched power GaAs FET >

# MGFS45V2325A

2.3 – 2.5 GHz BAND / 32W

## DESCRIPTION

The MGFS45V2325A is an internally impedance-matched GaAs power FET especially designed for use in 2.3 – 2.5 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

## FEATURES

Class A operation

Internally matched to 50(ohm) system

- High output power  
P1dB=32W (TYP.) @f=2.3 – 2.5GHz
- High power gain  
GLP=12.0dB (TYP.) @f=2.3 – 2.5GHz
- High power added efficiency  
P.A.E.=45% (TYP.) @f=2.3 – 2.5GHz
- Low distortion [item -51]  
IM3=-45dBc (TYP.) @Po=34.5dBm S.C.L

## APPLICATION

- item 01 : 2.3 – 2.5 GHz band power amplifier
- item 51 : 2.3 – 2.5 GHz band digital radio communication

## QUALITY

- IG

## RECOMMENDED BIAS CONDITIONS

- VDS=10V • ID=6.5A • RG=25ohm

## Absolute maximum ratings (Ta=25°C)

| Symbol | Parameter                        | Ratings     | Unit |
|--------|----------------------------------|-------------|------|
| VGDO   | Gate to drain breakdown voltage  | -15         | V    |
| VGSO   | Gate to source breakdown voltage | -15         | V    |
| ID     | Drain current                    | 22          | A    |
| IGR    | Reverse gate current             | -61         | mA   |
| IGF    | Forward gate current             | 76          | mA   |
| PT *1  | Total power dissipation          | 100         | W    |
| Tch    | Cannel temperature               | 175         | °C   |
| Tstg   | Storage temperature              | -65 to +175 | °C   |

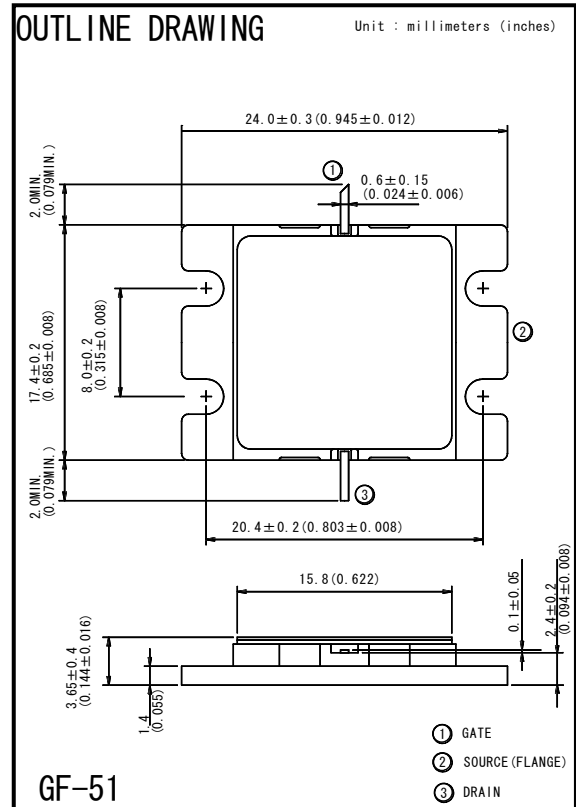
\*1 : Tc=25°C

## 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=60mA          | -      | -    | -5   | V    |
| P1dB         | Output power at 1dB gain compression | VDS=10V, ID(RF off)=6.5A | 44     | 45   | -    | dBm  |
| GLP          | Linear Power Gain                    | f=2.3 – 2.5GHz           | 11     | 12   | -    | dB   |
| ID           | Drain current                        |                          | -      | 7.5  | -    | A    |
| P.A.E.       | Power added efficiency               |                          | -      | 45   | -    | %    |
| IM3 *2       | 3rd order IM distortion              |                          | -42    | -45  | -    | dBc  |
| Rth(ch-c) *3 | Thermal resistance                   | delta Vf method          | -      | -    | 1.5  | °C/W |

\*2 : item -51, 2 tone test, Po=34.5dBm Single Carrier Level, f=2.3, 2.4, 2.5GHz, delta f=5MHz

\*3 : Channel-case



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