

< L/S band internally matched power GaAs FET >

# MGFS45V2123A

2.1 – 2.3 GHz BAND / 32W

## DESCRIPTION

The MGFS45V2123A is an internally impedance-matched GaAs power FET especially designed for use in 2.1 – 2.3 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=2.1 – 2.3GHz
- High power gain  
GLP=12.0dB (TYP.) @f=2.1 – 2.3GHz
- High power added efficiency  
P.A.E.=45% (TYP.) @f=2.1 – 2.3GHz
- Low distortion [item -51]  
IM3=-45dBc (TYP.) @Po=34.5dBm S.C.L

## APPLICATION

- item 01 : 2.1 – 2.3 GHz band power amplifier
- item 51 : 2.1 – 2.3 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	Channel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°C

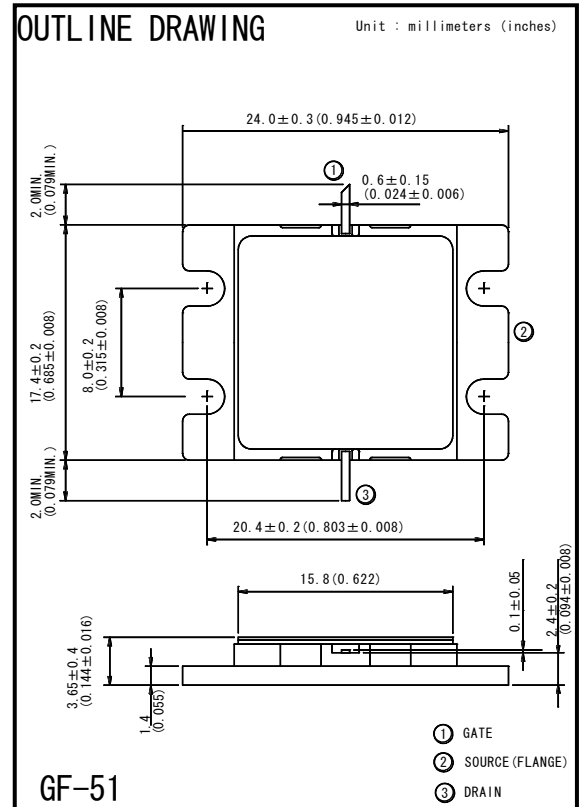
\*1 : Tc=25°C

## 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=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=2.1 – 2.3GHz	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=2.1, 2.2, 2.3GHz, delta f=5MHz

\*3 : Channel-case



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