

# MGFS45V2123A

## 2.1 - 2.3GHz BAND 32W INTERNALLY MATCHED GaAs FET

### 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 - 2.3 GHz
- High power gain  
GLP = 12 dB (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

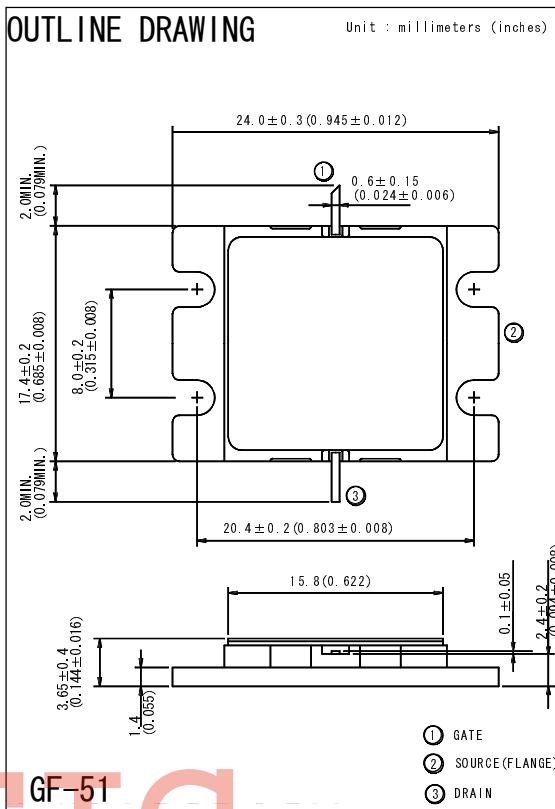
- item 01 : 2.1 - 2.3 GHz band power amplifier
- item 51 : 2.1 - 2.3 GHz band digital radio communication

### QUALITY GRADE

IG

### RECOMMENDED BIAS CONDITIONS

- VDS = 10 (V)
- ID = 6.5 (A)
- RG=25 (ohm)



### ABSOLUTE MAXIMUM RATINGS (Ta=25deg.C)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain voltage	-15	V
VGSO	Gate to source 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	deg.C
Tstg	Storage temperature	-65 / +175	deg.C

\*1 : Tc=25deg.C

< Keep safety first in your circuit designs! >  
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### ELECTRICAL CHARACTERISTICS (Ta=25deg.C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
VGS(off)	Saturated drain current	VDS = 3V , ID = 60mA	-	-	-5	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=6.5A, f=2.1 - 2.3GHz	44	45	-	dBm
GLP	Linear power gain		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	deg.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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