

< L/S band internally matched power GaAs FET >

MGFS45V2123A

<u> 2.1 – 2.3 GHz BAND / 32W</u>

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

- 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

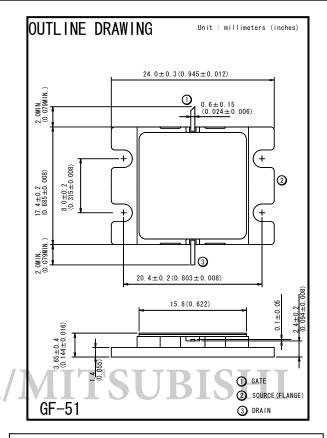
• VDS=10V • ID=6.5A • RG=25ohm -

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	А				
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							

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Electrical characteristics (Ta=25°C)



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Symbol	Parameter	Test conditions	Limits		Unit	
			Min.	Тур.	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	-	А
P.A.E.	Power added efficiency		-	45	-	%
IM3 *2	3rd order IM distortion	7	-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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