

< C band internally matched power GaAs FET >

# MGFC36V5258

5.2 – 5.8 GHz BAND / 4W

## DESCRIPTION

The MGFC36V5258 is an internally impedance-matched GaAs power FET especially designed for use in 5.2 – 5.8 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=4W (TYP.) @f=5.2 – 5.8GHz
- High power gain  
GLP=10dB (TYP.) @f=5.2 – 5.8GHz
- High power added efficiency  
P.A.E.=32% (TYP.) @f=5.2 – 5.8GHz

## APPLICATION

- 5.2 – 5.8 GHz band power amplifier

## QUALITY

- IG

## RECOMMENDED BIAS CONDITIONS

- VDS=10V • ID=1.2A Refer to Bias Procedure • RG=100ohm

## Absolute maximum ratings (Ta=25°C)

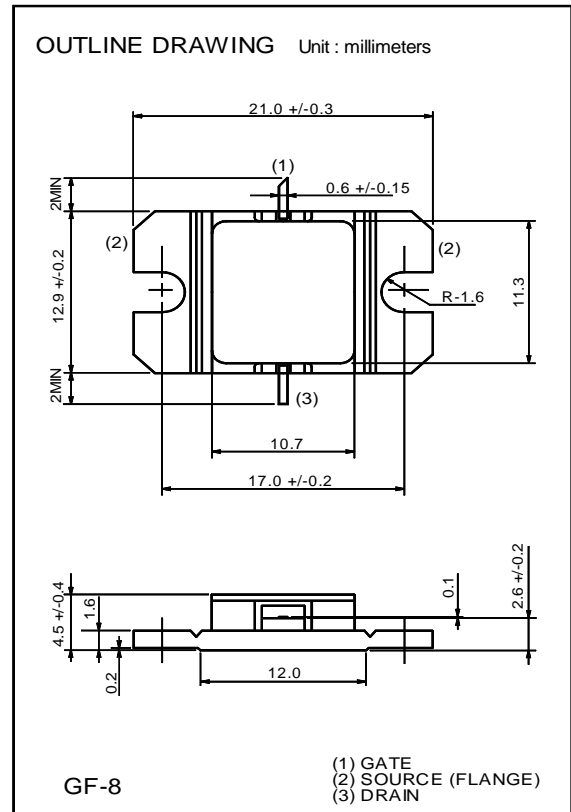
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-15	V
ID	Drain current	2.8	A
IGR	Reverse gate current	-10	mA
IGF	Forward gate current	21	mA
PT *1	Total power dissipation	25	W
Tch	Channel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°C

\*1 : Tc=25°C

## Electrical characteristics (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS=3V, VGS=0V	-	2.0	2.8	A
gm	Transconductance	VDS=3V, ID=1.1A	-	1	-	S
VGS(off)	Gate to source cut-off voltage	VDS=3V, ID=10mA	-2	-3	-4	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=1.2A f=5.2 – 5.8GHz	35	36	-	dBm
GLP	Linear Power Gain		9	10	-	dB
ID	Drain current		-	1.1	1.4	A
P.A.E.	Power added efficiency		-	33	-	%
Rth(ch-c) *2	Thermal resistance	delta Vf method	-	-	6	°C/W

\*2 : Channel-case



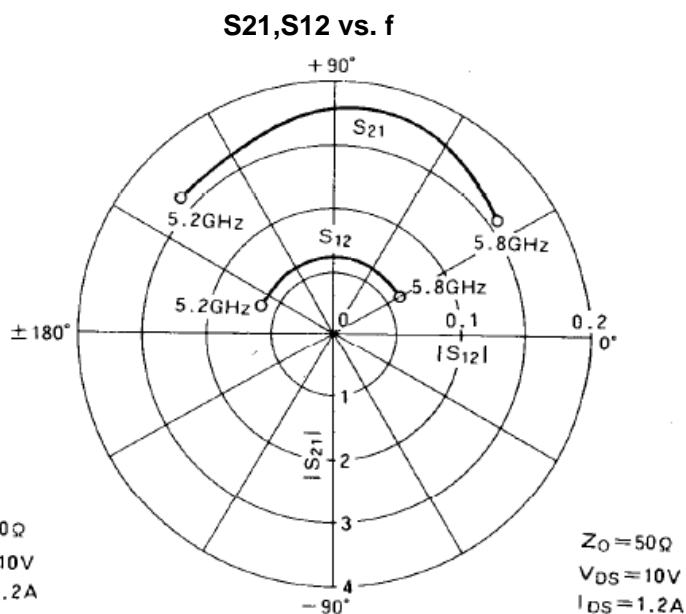
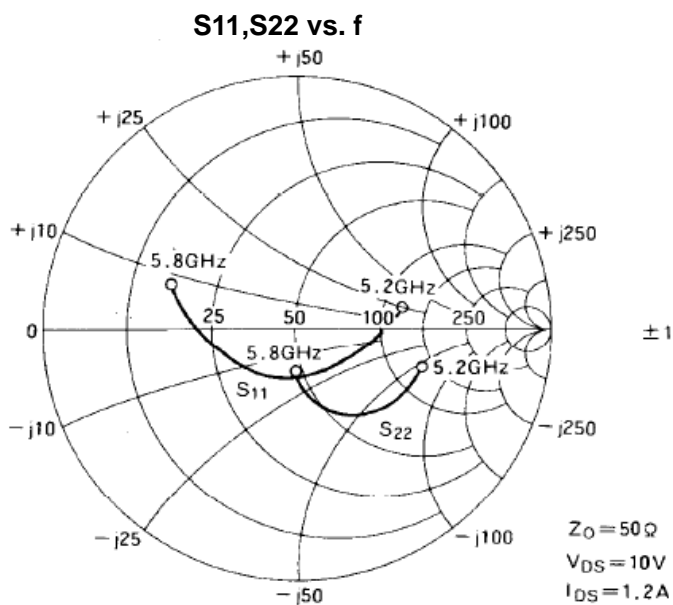
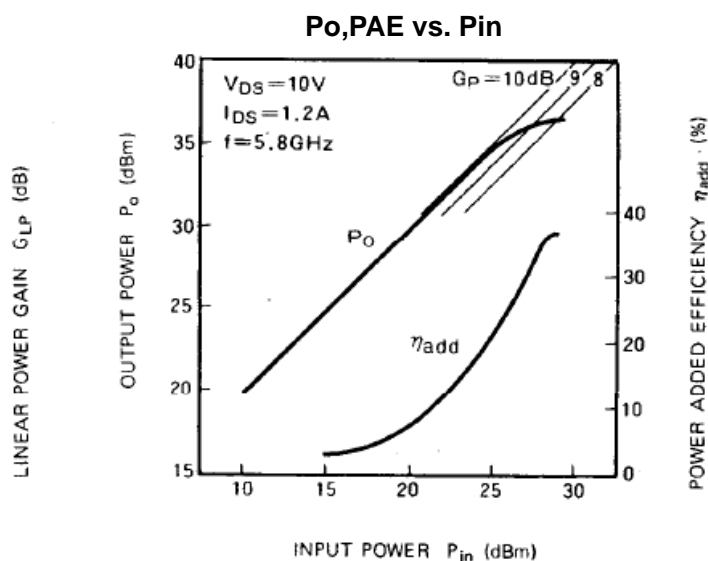
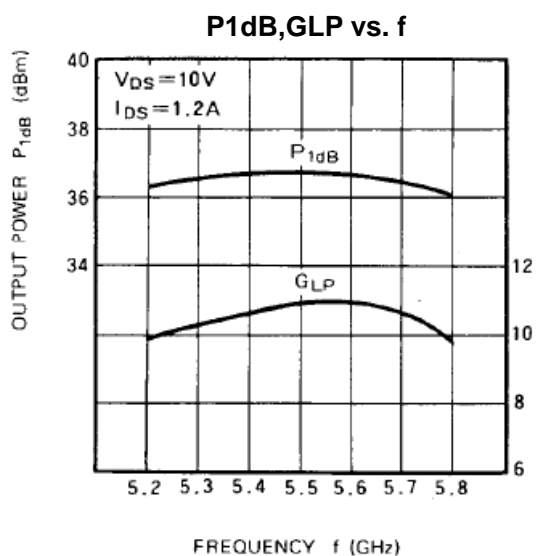
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## MGFC36V5258 TYPICAL CHARACTERISTICS( Ta=25deg.C )



## MGFC36V5258 S-parameters( Ta=25deg.C , VDS=10(V),IDS=1.2(A) )

f (GHz)	S Parameters(Typ.)							
	S11		S21		S12		S22	
	Magn.	Angle(deg.)	Magn.	Angle(deg.)	Magn.	Angle(deg.)	Magn.	Angle(deg.)
5.2	0.43	13	3.27	138	0.062	156	0.51	-17
5.3	0.30	-3	3.30	122	0.062	138	0.48	-28
5.4	0.19	-41	3.45	105	0.062	120	0.46	-39
5.5	0.18	-99	3.61	89	0.060	102	0.43	-51
5.6	0.28	-152	3.61	73	0.061	78	0.34	-66
5.7	0.39	179	3.45	55	0.059	56	0.26	-80
5.8	0.51	161	3.19	36	0.058	32	0.17	-98

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