

< C band internally matched power GaAs FET >

# MGFC36V5867

5.8 – 6.75 GHz BAND / 4W

## DESCRIPTION

The MGFC36V5867 is an internally impedance-matched GaAs power FET especially designed for use in 5.8 – 6.75 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=5.8 – 6.75GHz
- High power gain  
GLP=10dB (TYP.) @f=5.8 – 6.75GHz

## APPLICATION

- VSAT

## RECOMMENDED BIAS CONDITIONS

- VDS=10V • ID=1.2A • RG=100ohm

## Absolute maximum ratings (Ta=25°C)

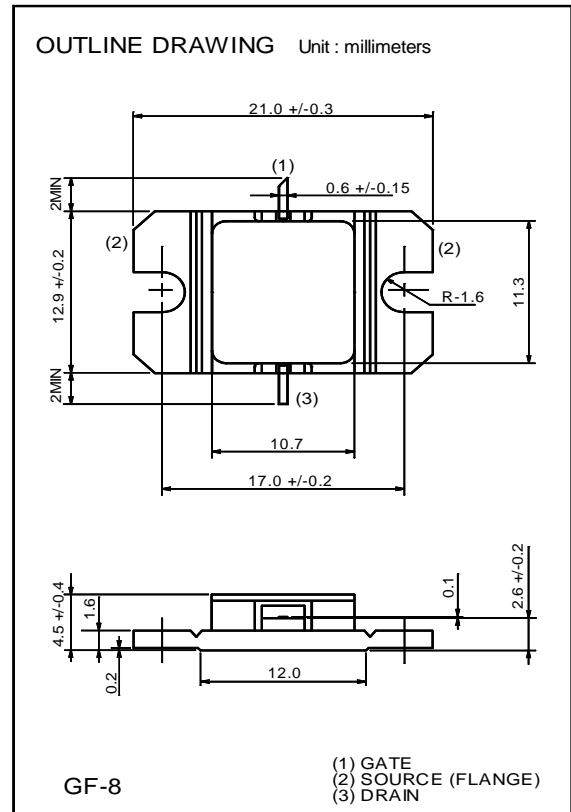
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-15	V
ID	Drain current	3.75	A
IGR	Reverse gate current	-10	mA
IGF	Forward gate current	21	mA
PT *1	Total power dissipation	25	W
Tch	Channel temperature	175	°C
Tstg	Storage temperature	-65 to +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	-	-	3.75	A
gm	Transconductance	VDS=3V, ID=1.1A	-	1	-	S
VGS(off)	Gate to source cut-off voltage	VDS=3V, ID=10mA	-	-	-4.5	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=1.2A f=5.8 – 6.75GHz	35	36	-	dBm
GLP	Linear Power Gain		8.5	10	-	dB
ID	Drain current		-	-	1.8	A
P.A.E.	Power added efficiency		-	30	-	%
Rth(ch-c) *2	Thermal resistance	delta Vf method	-	5	6	°C/W

\*2 : Channel-case



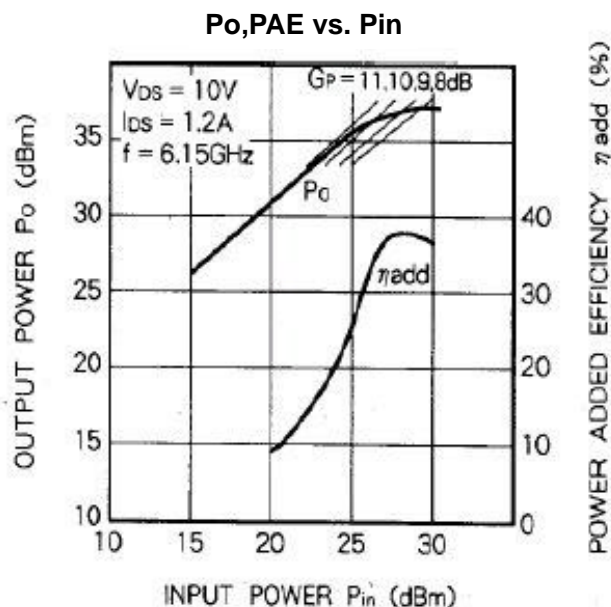
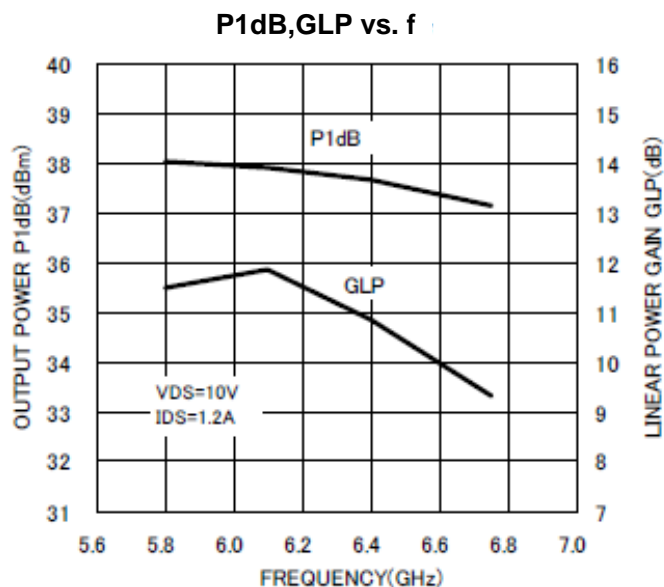
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## MGFC36V5867 TYPICAL CHARACTERISTICS( Ta=25deg.C )



## MGFC36V5867 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.)
5.8	0.48	155	3.409	-29	0.07	-78	0.33	179
5.9	0.47	136	3.426	-42	0.07	-91	0.29	164
6.0	0.46	116	3.472	-55	0.07	-104	0.26	147
6.1	0.44	98	3.494	-70	0.07	-117	0.24	132
6.2	0.42	79	3.465	-84	0.08	-132	0.21	114
6.3	0.40	60	3.446	-98	0.08	-145	0.20	96
6.4	0.39	39	3.397	-112	0.08	-157	0.19	77
6.5	0.37	17	3.356	-126	0.08	-172	0.18	57
6.6	0.37	-7	3.297	-141	0.08	173	0.18	34
6.7	0.38	-33	3.221	-156	0.08	161	0.18	12
6.8	0.41	-58	3.116	-171	0.08	146	0.19	-12

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