

< X/Ku band internally matched power GaAs FET >

MGFX36V0717

10.7 – 11.7 GHz BAND / 4W

DESCRIPTION

The MGFX36V0717 is an internally impedance-matched GaAs power FET especially designed for use in 10.7 – 11.7 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

FEATURES

Internally impedance matched

- High output power
P1dB=4.0W (TYP.) @f=10.7 – 11.7GHz
- High linear power gain
GLP=8.0dB (TYP.) @f=10.7 – 11.7GHz
- High power added efficiency
P.A.E.=28% (TYP.) @f=10.7 – 11.7GHz

APPLICATION

- For use in 10.7 – 11.7 GHz band power amplifiers

QUALITY

- IG

RECOMMENDED BIAS CONDITIONS

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

Absolute maximum ratings (Ta=25°C)

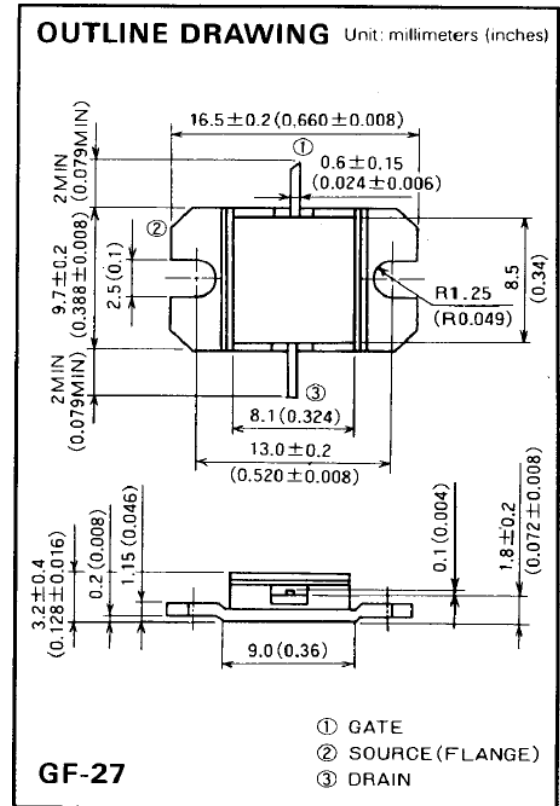
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-15	V
ID	Drain current	2.8	A
IGR	Reverse gate current	-9.0	mA
IGF	Forward gate current	18.0	mA
PT *1	Total power dissipation	27.2	W
Tch	Channel temperature	175	°C
Tstg	Storage temperature	-65 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	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	34.5	36	-	dBm
GLP	Linear Power Gain	f=10.7 – 11.7GHz	7	8	-	dB
P.A.E.	Power added efficiency		-	28	-	%
Rth(ch-c) *2	Thermal resistance		-	-	5.5	°C/W

*2 : Channel-case



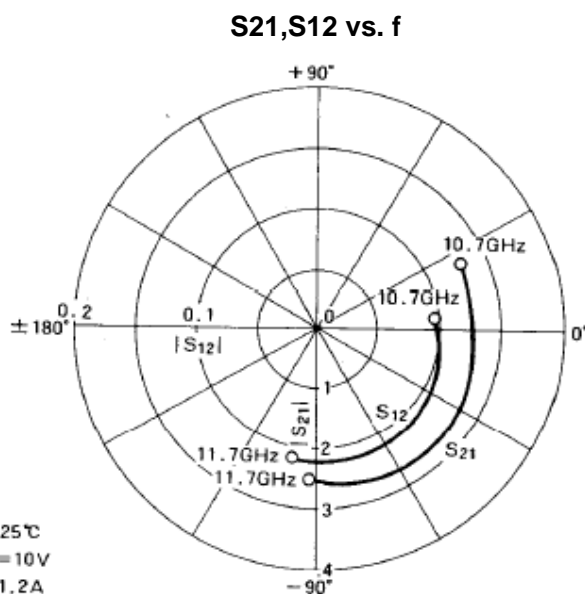
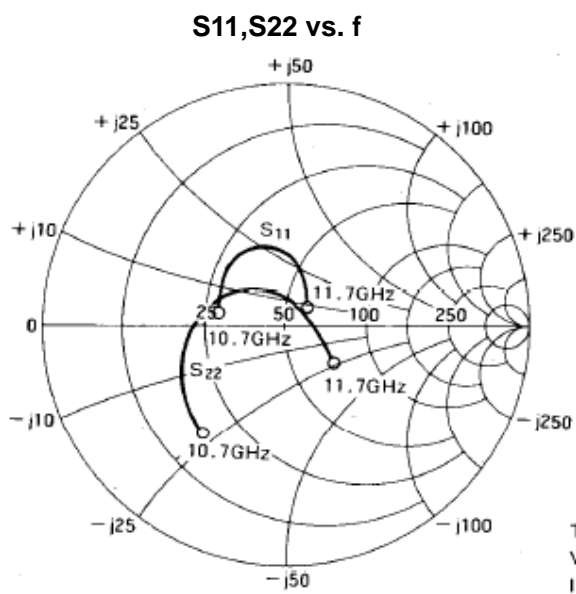
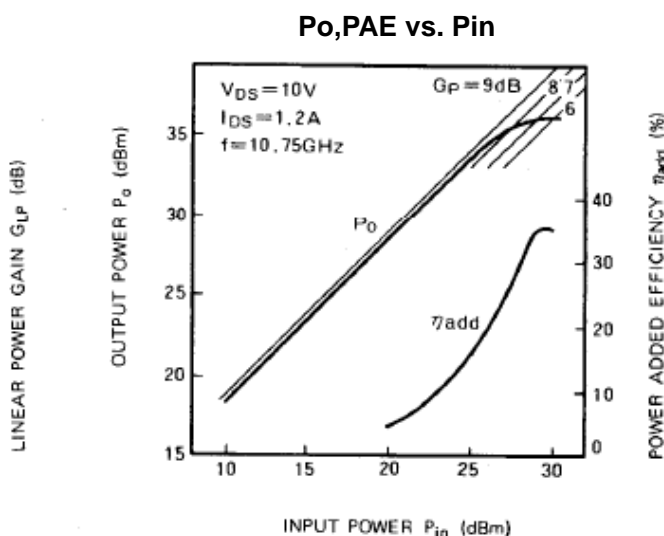
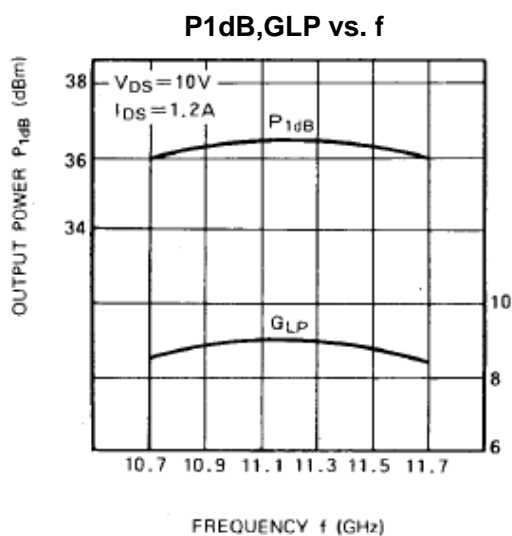
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MGFX36V0717 TYPICAL CHARACTERISTICS(Ta=25deg.C)



MGFX36V0717 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.)
10.7	0.27	173	2.52	25	0.099	-5	0.62	-130
10.9	0.27	148	2.57	-3	0.155	-13	0.52	-148
11.1	0.28	122	2.67	-28	0.118	-35	0.36	-173
11.3	0.28	98	2.73	-51	0.120	-59	0.14	145
11.5	0.24	72	2.61	-73	0.119	-79	0.18	35
11.7	0.14	35	2.51	-91	0.115	-101	0.32	-35

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