MITSUBISHI ELECTRIC

< X/Ku band internally matched power GaAs FET >

MGFX39V0717

10.7 – 11.7 GHz BAND / 8W

DESCRIPTION

The MGFX39V0717 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 matched to 50(ohm) system
- High output power
  P1dB=8W (TYP.) @f=10.7 – 11.7GHz
- High power gain
  GLP=7dB (TYP.) @f=10.7 – 11.7GHz
- High power added efficiency
  P.A.E.=26% (TYP.) @f=10.7 – 11.7GHz

APPLICATION

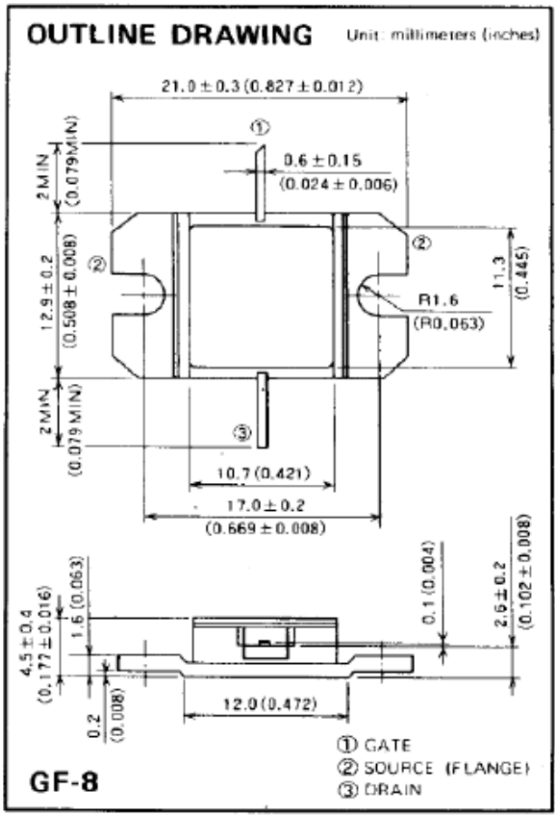
- 10.7 – 11.7GHz band microwave high power amplifier

QUALITY

- IG

RECOMMENDED BIAS CONDITIONS

- VDS=10V - ID=2.4A - RG=50ohm 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	5.6	A
IGR	Reverse gate current	-18	mA
IGF	Forward gate current	36	mA
PT *1	Total power dissipation	42.8	W
Tch	Cannel 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	-	4	5.6	A
gm	Trans conductance	VDS=3V, ID=2.4A	-	2	-	S
VGS(off)	Gate to source cut-off voltage	VDS=3V,ID=20mA	-	-2.5	-4.5	V
P1dB	Output power at 1dB gain compression	VDS=10V,ID(RF off)=2.4A	37.5	39	-	dBm
GLP *2	Linear Power Gain	f=10.7 – 11.7GHz	6	7	-	dB
P.A.E.	Power added efficiency	Pin=22dBm *2	-	26	-	%
Rth(ch-c) *3	Thermal resistance	delta Vf method	-	-	3.5	°C/W

*3 :Channel-case

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