

< X/Ku band internally matched power GaAs FET >

# MGFK33V4045

14.0 – 14.5 GHz BAND / 2W

## DESCRIPTION

The MGFK33V4045 is an internally impedance-matched GaAs power FET especially designed for use in 14.0 – 14.5 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

## FEATURES

Internally matched to 50(ohm) system

- High output power  
P1dB=2W (TYP.) @f=14.0 – 14.5GHz
- High power gain  
GLP=7dB (TYP.) @f=14.0 – 14.5GHz
- High power added efficiency  
P.A.E.=25% (TYP.) @f=14.0 – 14.5GHz

## APPLICATION

- 14.0 – 14.5GHz band microwave high power amplifier

## QUALITY

- IG

## RECOMMENDED BIAS CONDITIONS

- VDS=8V • ID=700mA • RG=250ohm Refer to Bias Procedure

## Absolute maximum ratings (Ta=25°C)

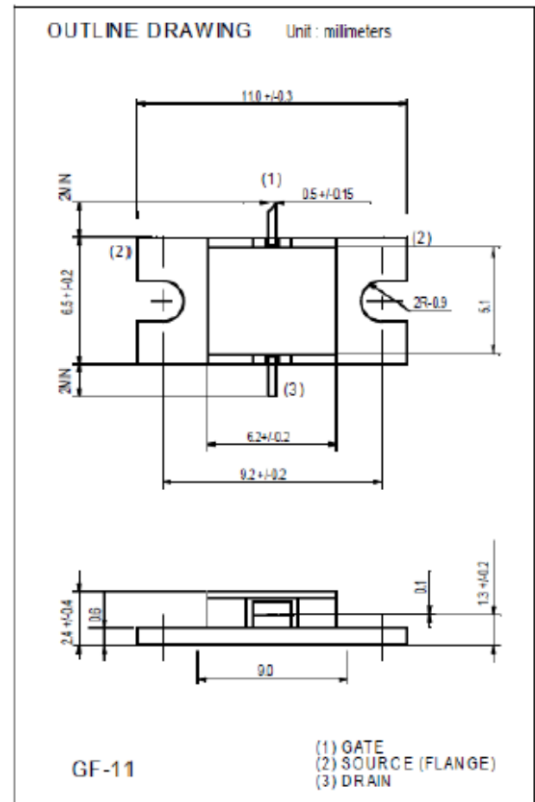
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-15	V
ID	Drain current	1800	mA
IGR	Reverse gate current	-4.8	mA
IGF	Forward gate current	20	mA
PT *1	Total power dissipation	15	W
Tch	Channel temperature	175	°C
Tstg	Storage temperature	-65 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, VDS=0V	-	1200	1800	mA
gm	Trans conductance	VDS=3V, ID=700mA	-	600	-	mS
VGS(off)	Gate to source cut-off voltage	VDS=3V, ID=4mA	-	-2.5	-4.5	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=700mA	32	33	-	dBm
GLP *2	Linear Power Gain	f=14.0 – 14.5GHz	5.5	7	-	dB
P.A.E.	Power added efficiency	Pin=17dBm *2	-	25	-	%
Rth(ch-c) *3	Thermal resistance	Delta Vf method	-	-	10	°C/W

\*3 : Channel-case



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