

< X/Ku band internally matched power GaAs FET >

MGFK44A4045

14.0 – 14.5 GHz BAND / 25W

DESCRIPTION

The MGFK44A4045 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=25W (TYP.) @f=14.0 – 14.5GHz
- High power gain
GLP=6dB (TYP.) @f=14.0 – 14.5GHz
- High power added efficiency
P.A.E.=20% (TYP.) @f=14.0 – 14.5GHz

APPLICATION

- 14.0 – 14.5GHz band microwave high power amplifier

QUALITY

- IG

RECOMMENDED BIAS CONDITIONS

- VDS=10V • ID=6A • RG=25ohm Refer to Bias Procedure

Absolute maximum ratings (Ta=25°C)

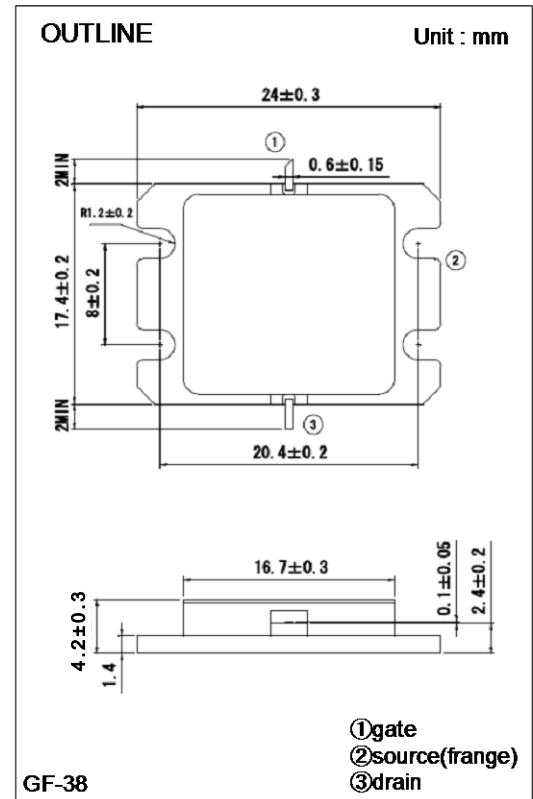
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-10	V
ID	Drain current	22	A
IGR	Reverse gate current	-70	mA
IGF	Forward gate current	91.8	mA
PT *1	Total power dissipation	100	W
Tch	Channel temperature	175	°C
Tstg	Storage temperature	-65 to +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	-	16	-	A
gm	Trans conductance	VDS=3V, ID=6A	-	6	-	mS
VGS(off)	Gate to source cut-off voltage	VDS=3V, ID=84mA	-1	-	-4	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=6A	43	44	-	dBm
GLP *2	Linear Power Gain	f=14.0 – 14.5GHz	5	6	-	dB
P.A.E.	Power added efficiency	Pin=29dBm *2	-	20	-	%
Rth(ch-c) *3	Thermal resistance	Delta Vf method	-	1.2	1.5	°C/W

*3 : Channel-case



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