

MGFK25V4045

14.0-14.5GHz BAND 0.3W INTERNALLY MATCHED GaAs FET

DESCRIPTION

The MGFK25V4045 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 impedance matched
- Flip-chip mounted
- High output power
P1dB = 0.3W(TYP.) @f=14.0-14.5GHz
- High linear power gain
GLP = 9.0dB(TYP.) @f=14.0-14.5GHz
- High power added efficiency
P.A.E.=25%(TYP.) @f=14.0-14.5GHz

APPLICATION

- For use in 14.0-14.5GHz band amplifiers

QUALITY GRADE

- IG

RECOMMENDED BIAS CONDITIONS

VDS =8 (V)
ID =80 (mA)
Refer to Bias Procedure

ABSOLUTE MAXIMUM RATINGS

(Ta=25deg.C)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain voltage	-15	V
VGSO	Gate to source voltage	-15	V
ID	Drain current	500	mA
IGR	Reverse gate current	-1	mA
IGF	Forward gate current	1	mA
PT *1	Total power dissipation	2.7	W
Tch	Channel temperature	175	deg.C
Tstg	Storage temperature	-65 / +175	deg.C

*1 : Tc=25deg.C

ELECTRICAL CHARACTERISTICS

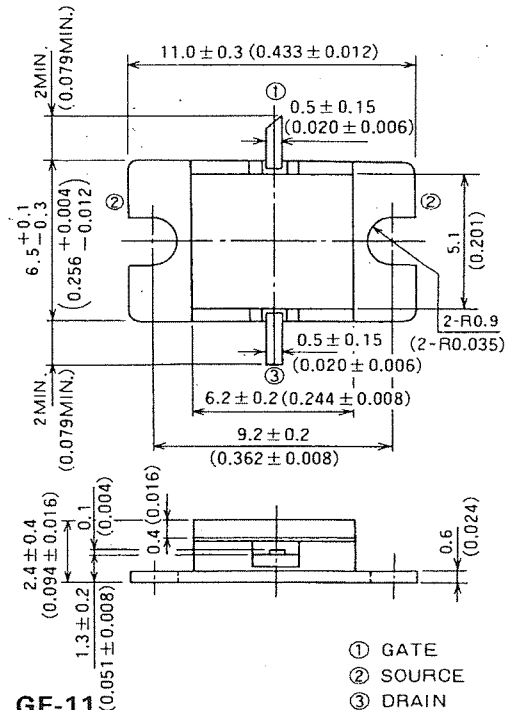
(Ta=25deg.C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS=3V,VGS=0V	-	200	500	mA
VGS(off)	Gate to source cut-off voltage	VDS=3V,ID=1mA	-2	-	-5	V
gm	Transconductance	VDS=3V,ID=150mA	-	100	-	mS
P1dB	Output power at 1dB gain compression	VDS=8V, ID(RF off)=150mA, f=14.0 - 14.5GHz	23	26	-	dBm
GLP	Linear power gain		7.0	9.0	-	dB
P.A.E.	Power added efficiency		-	25	-	%
Rth (Ch-C)	Thermal resistance *1	Delta Vf method	-	-	40	deg.C/W

*1 : Channel to case

OUTLINE DRAWING

Unit: millimeters (inches)



GF-11

< Keep safety first in your circuit designs! >

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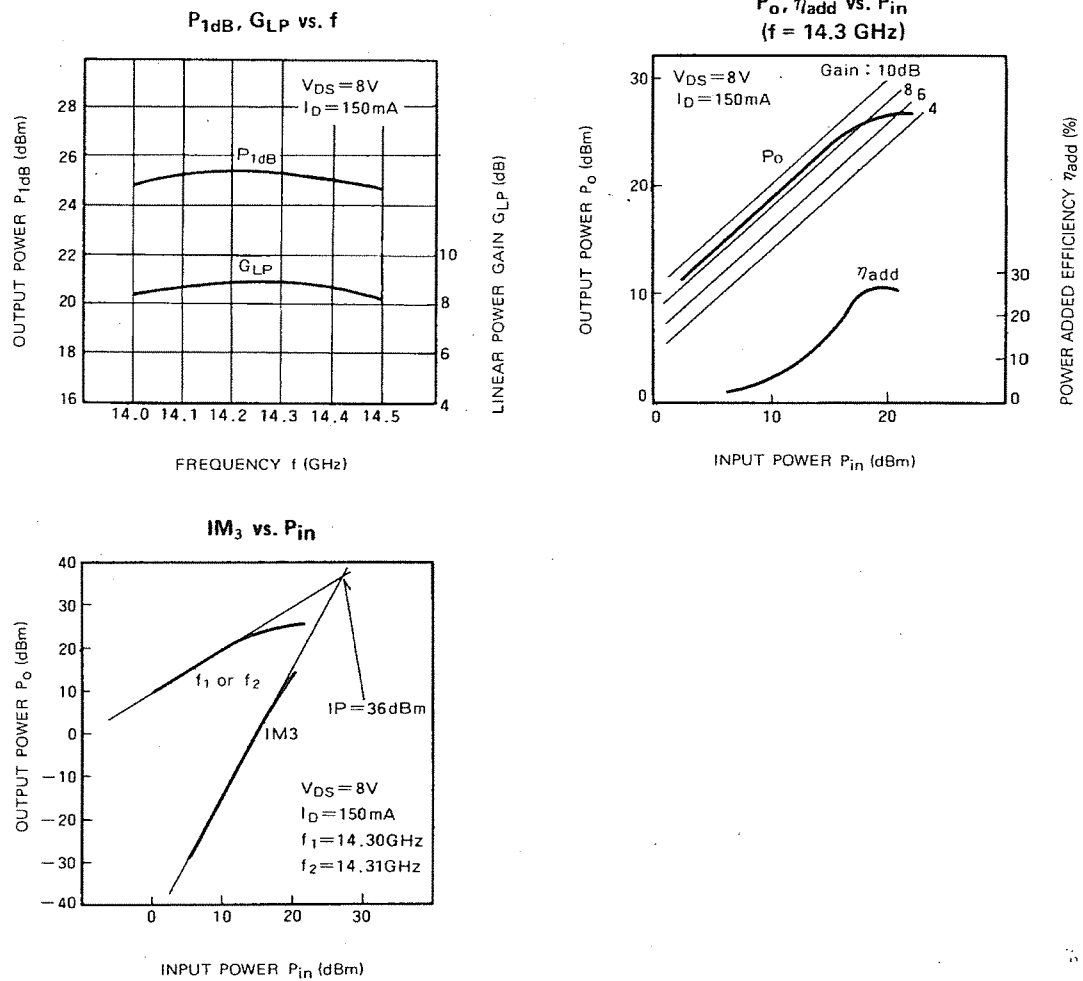


MITSUBISHI
ELECTRIC

Nov-'03

14.0~14.5GHz BAND 0.3W INTERNALLY MATCHED GaAs FET

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



MGFK25V4045**14.0 ~ 14.5GHz BAND 0.3W INTERNALLY MATCHED GaAs FET****Requests Regarding Safety Designs**

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