

# 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

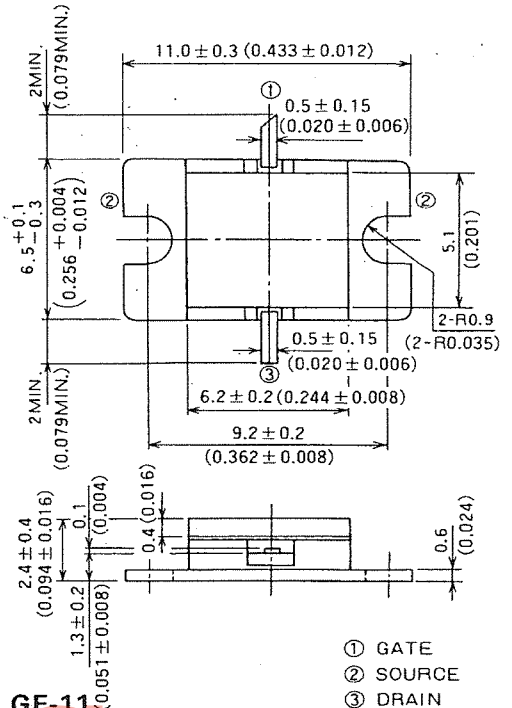
\*1 : Tc=25deg.C

### 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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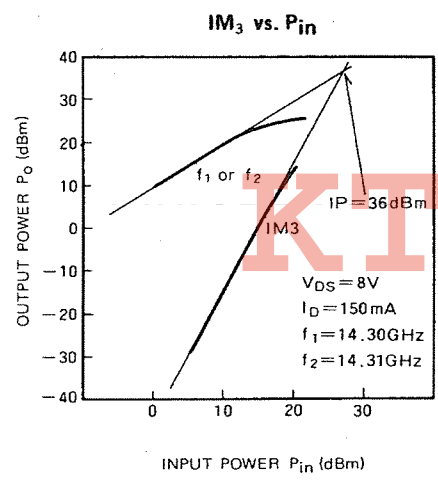
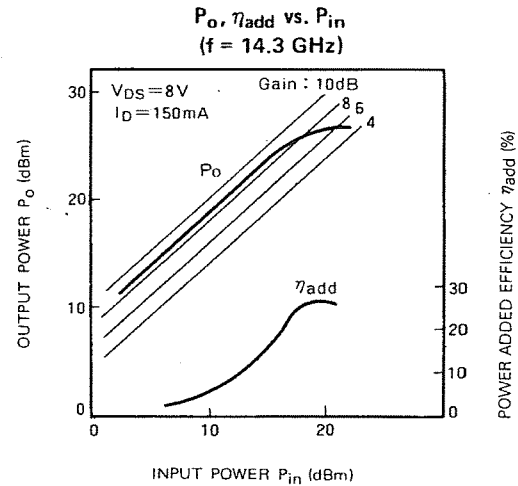
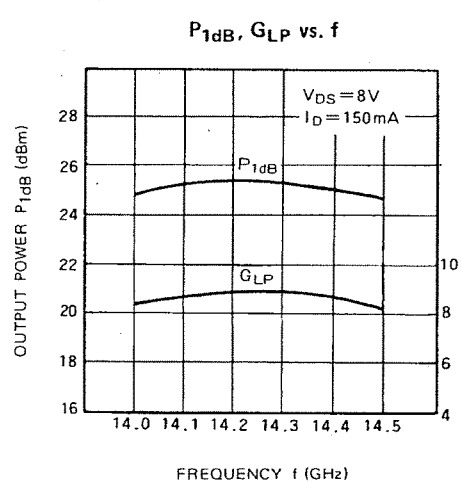


MITSUBISHI  
ELECTRIC

Nov-'03

**14.0~14.5GHz BAND 0.3W INTERNALLY MATCHED GaAs FET**

TYPICAL CHARACTERISTICS (Ta=25°C)



KTTIC

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