

# MGFC36V3436

3.4 ~ 3.6GHz BAND 4W INTERNALLY MATCHED GaAs FET

## DESCRIPTION

The MGFC36V3436 is an internally impedance-matched GaAs power FET especially designed for use in 3.4 ~ 3.6 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

## FEATURES

- Class A operation
- Internally matched to 50(ohm) system
- High output power  
P1dB = 4W (TYP.) @ f=3.4~3.6GHz
- High power gain  
GLP = 13.5 dB (TYP.) @ f=3.4~3.6GHz
- High power added efficiency  
P.A.E. = 32 % (TYP.) @ f=3.4~3.6GHz
- Low distortion [ item -51 ]  
IM3= -45 dBc(TYP.) @Po=25dBm S.C.L.

## APPLICATION

- item 01 : 3.4~3.6 GHz band power amplifier
- item 51 : 3.4~3.6 GHz band digital radio communication

## QUALITY GRADE

IG

## RECOMMENDED BIAS CONDITIONS

- VDS= 10 (V)
- ID= 1.2 (A)
- RG= 100 (ohm)

## ABSOLUTE MAXIMUM RATINGS

(Ta=25 deg.C)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain voltage	-15	V
VGSO	Gate to source voltage	-15	V
ID	Drain current	3.75	A
IGR	Reverse gate current	-10	mA
IGF	Forward gate current	21	mA
PT	Total power dissipation *1	25	W
Tch	Channel temperature	175	deg.C
Tstg	Storage temperature	-65/+175	deg.C

\*1 : Tc=25 deg.C

## ELECTRICAL CHARACTERISTICS

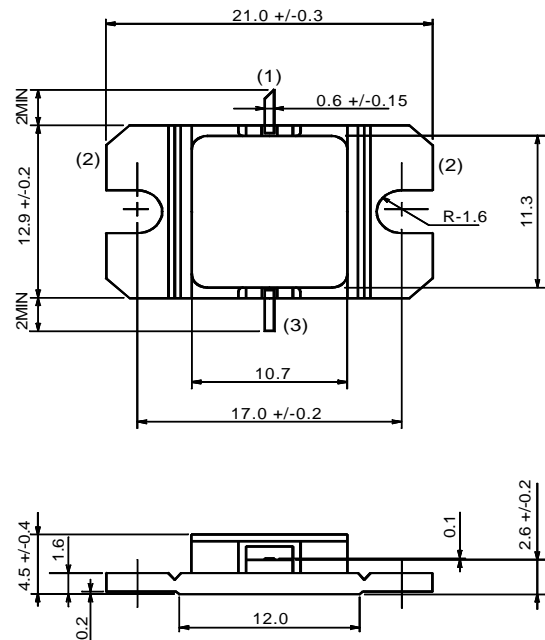
(Ta=25 deg.C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS=3V, VGS=0V	-	-	3.75	A
gm	Transconductance	VDS=3V, ID=1.1A	-	1	-	S
VGS(off)	Gate to source cut-off voltage	VDS=3V, ID=10mA	-	-	-4.5	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=1.2A, f=3.4~3.6GHz	35	37	-	dBm
GLP	Linear power gain		11	13.5	-	dB
ID	Drain current		-	1.1	1.8	A
P.A.E.	Power added efficiency		-	32	-	%
IM3	3rd order IM distortion *1		-42	-45	-	dBc
Rth(ch-c)	Thermal resistance *2		Delta Vf method	-	5	6

\*1 : item -51, 2 tone test, Po=25dBm Single Carrier Level, f=3.6GHz, Delta f=5MHz

\*2 : Channel to case

OUTLINE DRAWING Unit : millimeters



GF-8

- (1) GATE
- (2) SOURCE (FLANGE)
- (3) DRAIN

< Keep safety first in your circuit designs! >

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