MGFC42V3436

3.4 - 3.6GHz BAND 16W INTERNALLY MATCHED GaAs FET

DESCRIPTION

The MGFC42V3436 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 = 16W (TYP.) @ f=3.4 - 3.6 GHz
High power gain
GLP = 14 dB (TYP.) @ f=3.4 - 3.6GHz
High power added efficiency
P.A.E. = 37 % (TYP.) @ f=3.4 - 3.6GHz
Low distortion [item -51]
IM3=-45dBc(Min.) @Po=32dBm 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

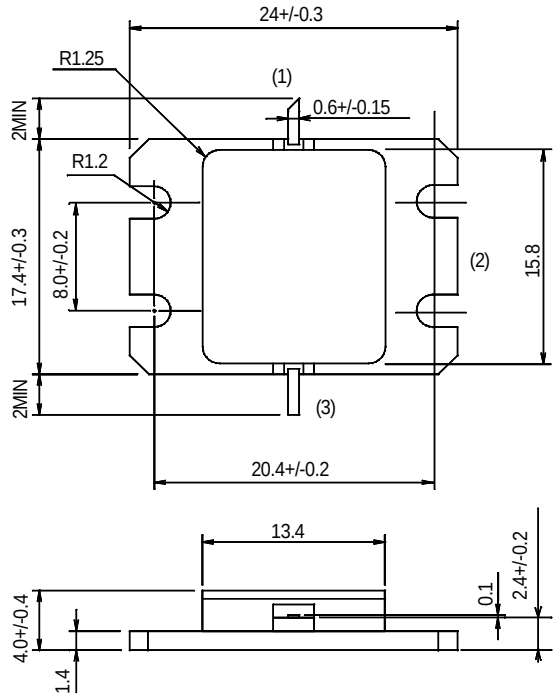
IG

RECOMMENDED BIAS CONDITIONS

VDS = 10 (V)
ID = 4.5 (A)
RG=25 (ohm)

OUTLINE DRAWING

Unit: millimeters



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(2): SOURCE (FLANGE)
(3): DRAIN

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	15	A
IGR	Reverse gate current	-40	mA
IGF	Forward gate current	84	mA
PT	Total power dissipation *1	78.9	W
Tch	Channel temperature	175	deg.C
Tstg	Storage temperature	-65 / +175	deg.C

*1 : Tc=25deg.C

< Keep safety first in your circuit designs! >

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ELECTRICAL CHARACTERISTICS (Ta=25deg.C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS = 3V , VGS = 0V	-	11	-	A
gm	Transconductance	VDS = 3V , ID = 4.4A	-	4	-	S
VGS(off)	Gate to source cut-off voltage	VDS = 3V , ID = 80mA	-	-	-4.5	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=4.5A, f=3.4 - 3.6GHz	41.5	42.5	-	dBm
GLP	Linear power gain		12	14	-	dB
ID	Drain current		-	4.5	-	A
P.A.E.	Power added efficiency		-	37	-	%
IM3	3rd order IM distortion *1		-42	-45	-	dBc
Rth(ch-c)	Thermal resistance *2	delta Vf method	-	-	1.9	deg.C/W

*1 : item -51, 2 tone test, Po=32dBm Single Carrier Level, f=3.6GHz, delta f=5MHz
*2 : Channel-case

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