MITSUBISHI SEMICONDUCTOR <GaAs FET>

MGFS44V2735

24 +/- 0.3

(3)

20.4 +/- 0.2

16.7

(1)

0.6 +/- 0.15

unit:mm

(2)

0.1 +/- 0.05 2.4 +/- 0.2

(1) gate (2) source(flange)

(3)drain

2.7 - 3.5GHz BAND 24W INTERNALLY MATCHED GaAs FET

OUTLINE

R1.2

z

2Mi

17.4 +/- 0.2 0.2

2MIN

4.3 +/- 0.4

4

GF-38

8.0 +/- |

DESCRIPTION

The MGFS44V2735 is an internally impedance-matched GaAs power FET especially designed for use in 2.7 - 3.5 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 = 24W (TYP.) @ f=2.7 - 3.5 GHz High power gain GLP = 12 dB (TYP.) @ f=2.7 - 3.5GHz High power added efficiency P.A.E. = 36 % (TYP.) @ f=2.7 - 3.5GHz Low distortion [item -51] IM3=-45dBc(TYP.) @Po=33.5dBm S.C.L.

APPLICATION

item 01 : 2.7 - 3.5 GHz band power amplifier item 51: 2.7 - 3.5 GHz band digital ratio communication

QUALITY GRADE IG

RECOMMENDED BIAS CONDITIONS VDS = 10 (V)ID = 6.4 (A)RG=25 (ohm)

ABSOLUTE MAXIMUM RATINGS



Parameter	Ratings	Unit	
Gate to drain voltage	-15	V	
Gate to source voltage	-15	V	
Drain current	20	A	
Reverse gate current	-60	mA	
F Forward gate current 126		mA	
Total power dissipation	125	W	
Channel temperature	175	deg.C	
Storage temperature	-65 / +175	deg.C	
	Gate to drain voltage Gate to source voltage Drain current Reverse gate current Forward gate current Total power dissipation Channel temperature	Gate to drain voltage-15Gate to source voltage-15Drain current20Reverse gate current-60Forward gate current126Total power dissipation125Channel temperature175	

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1 : Tc=25deg.C

ELECTRICAL CHARACTERISTICS

Symbol Parameter	Parameter	neter Test conditions	Limits			Unit
		Min.	Тур.	Max.	1	
IDSS	Saturated drain current	VDS = 3V , VGS = 0V	-	18	-	A
gm	Transconductance	VDS = 3V , ID = 6.4A	-	6.5	-	S
VGS(off)	Gate to source cut-off voltage	VDS = 3V , ID = 120mA	-2	-	-5	V
P1dB	Output power at 1dB gain compression		43	44	-	dBm
GLP	Linear power gain	VDS=10V, ID(RF off)=6.4A, f=2.7 - 3.5GHz	11	12	-	dB
ID	Drain current		-	6.4	-	A
P.A.E.	Power added efficiency		-	36	-	%
IM3 *2	3rd order IM distortion		-42	-45	-	dBc
Rth(ch-c) *3	Thermal resistance	delta Vf method	-	1.0	1.2	deg.C/W

(Ta=25deq.C)

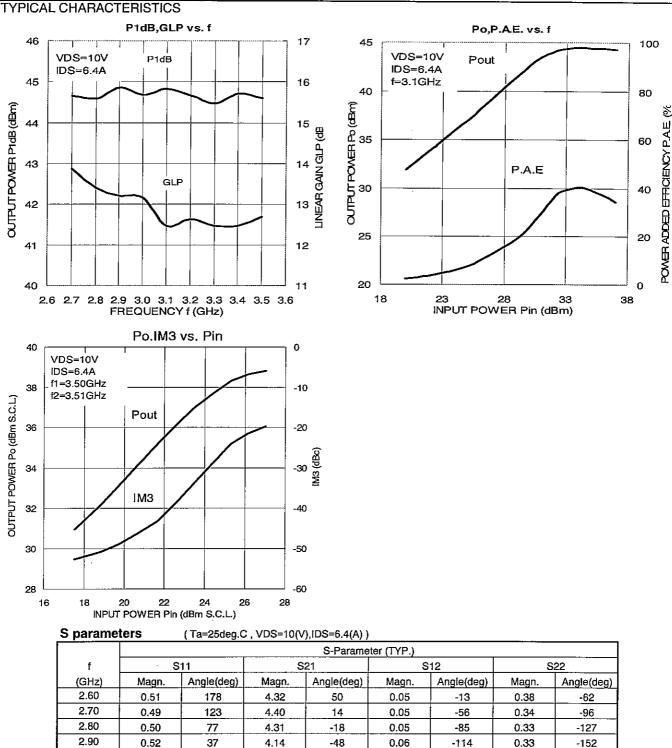
*3 : Channel-case



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3.00 -77 0.54 2 4.04 0.06 -137 0.33 -174 3.10 0.53 -29 3.96 -105 0.06 0.33 -167 169 3.20 -133 0.51 -62 3.97 0.06 165 0.31 150 3.30 0.47 -95 4.06 -161 0.07 137 0.29 131 3.40 0.40 -134 4.20 168 105 0.24 0.07 103 3.50 4.31 0.29 171 134 0.08 73 0.18 61 3.60 0.27 82 4.13 96 0.07 32 0.17 -24



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