

MGFS52B2122

2.1 - 2.2 GHz BAND 160W GaAs FET

DESCRIPTION

The MGFS52B2122 is a 160W push-pull type GaAs Power FET especially designed for use in 2.1 - 2.2GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

FEATURES

- Push-pull configuration
- High output power
 $P_{out} = 160W$ (TYP.) @ $f=2.17$ GHz
- High power gain
 $GLP = 12$ dB (TYP.) @ $f=2.17$ GHz
- High power added efficiency
 $P.A.E. = 48\%$ (TYP.) @ $f=2.17$ GHz

APPLICATION

2.1-2.2GHz band power amplifier for W-CDMA Base Station

QUALITY GRADE

IG

RECOMMENDED BIAS CONDITIONS

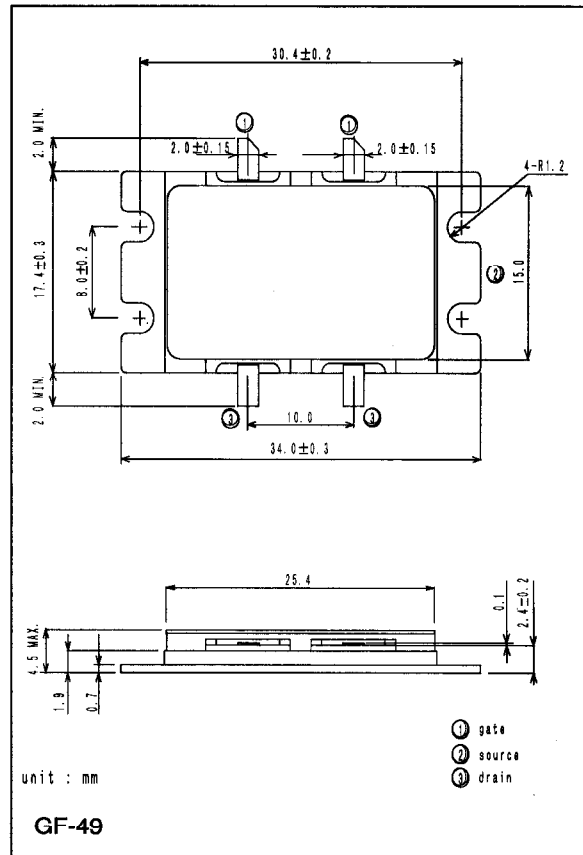
$V_{DS} = 12$ (V)
 $I_D = 4.0$ (A)
 $R_G = 5$ (ohm) for each gate

ABSOLUTE MAXIMUM RATINGS (Ta=25deg.C)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain voltage	-20	V
VGSO	Gate to source voltage	-10	V
PT *1	Total power dissipation	187.5	W
Tch	Channel temperature	175	deg.C
Tstg	Storage temperature	-65 / +175	deg.C

*1 : $T_c = 25 \text{ deg.C}$

OUTLINE



< Keep safety first in your circuit designs! >

Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1) placement of substitutive, auxiliary circuits, (2) use of non-flammable material or (3) prevention against any malfunction or mishap.

ELECTRICAL CHARACTERISTICS (Ta=25deg.C)

Symbol	Paramotor	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
GLP	Linear power gain	$P_{in} = 32 \text{ dBm}$	11	12	-	dB
P2dB	Output power	$P_{in} = 43 \text{ dBm}$ $V_{DS} = 12V, I_D(RF \text{ off}) = 4.0A,$ $f = 2.17 \text{ GHz}$	50.8	51.8	-	dBm
ID(RF)	Drain current		-	23	30	A
P.A.E.	Power added efficiency		-	48	-	%
Rth (ch-c)	Thermal resistance	Channel to Case	-	0.55	0.8	deg.C/W

