

MGFC39V5964A**5.9 ~ 6.4GHz BAND 8W INTERNALLY MATCHED GaAs FET****DESCRIPTION**

The MGFC39V5964A is an internally impedance-matched GaAs power FET especially designed for use in 5.9 ~ 6.4 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
 $P_{1dB} = 8W$ (TYP.) @ $f=5.9\sim6.4GHz$
 High power gain
 $GLP = 10.5$ dB (TYP.) @ $f=5.9\sim6.4GHz$
 High power added efficiency
 $P.A.E. = 30\%$ (TYP.) @ $f=5.9\sim6.4GHz$
 Low distortion [item -51]
 $IM3 = -45$ dBc(TYP.) @ $P_o=28dBm$ S.C.L.

APPLICATION

item 01 : 5.9~6.4 GHz band power amplifier
 item 51 : 5.9~6.4 GHz band digital radio communication

QUALITY GRADE

IG

RECOMMENDED BIAS CONDITIONS

$V_{DS} = 10$ (V)
 $ID = 2.4$ (A) Refer to Bias Procedure
 $RG = 50$ (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	7.5	A
IGR	Reverse gate current	-20	mA
IGF	Forward gate current	42	mA
PT	Total power dissipation *1	42.8	W
Tch	Channel temperature	175	deg.C
Tstg	Storage temperature	-65 / +175	deg.C

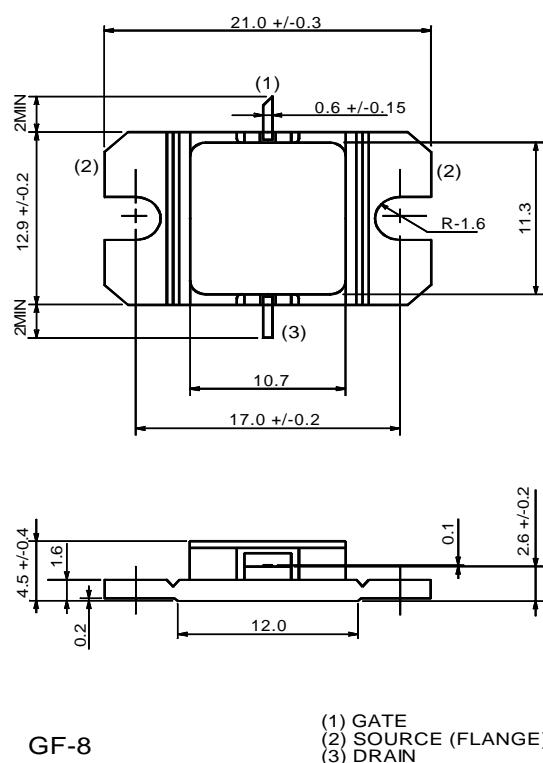
*1 : $T_c=25$ deg.C**ELECTRICAL CHARACTERISTICS**

(Ta=25 deg.C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	$V_{DS}=3V, V_{GS}=0V$	-	-	7.5	A
gm	Transconductance	$V_{DS}=3V, ID=2.2A$	-	2	-	S
VGS(off)	Gate to source cut-off voltage	$V_{DS}=3V, ID=20mA$	-	-	-4.5	V
P1dB	Output power at 1dB gain compression	$V_{DS}=10V, ID(RF\ off)=2.4A, f=5.9\sim6.4GHz$	38	39.5	-	dBm
GLP	Linear power gain		8	10.5	-	dB
ID	Drain current		-	-	3	A
P.A.E.	Power added efficiency		-	30	-	%
IM3	3rd order IM distortion *1		-42	-45	-	dBc
Rth(ch-c)	Thermal resistance *2	Delta Vf method	-	-	3.5	deg.C/W

*1 : item -51, 2 tone test, $P_o=28dBm$ Single Carrier Level, $f=6.4GHz$, $\Delta f=10MHz$

*2 : Channel to case

OUTLINE DRAWING Unit : millimeters

GF-8

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

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