# MGFC40V5258

## 5.2 - 5.8GHz BAND 10W INTERNALLY MATCHED GaAs FET

#### **DESCRIPTION**

The MGFC40V5258 is an internally impedance-matched GaAs power FET especially designed for use in 5.2 - 5.8 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 = 10W (TYP.) @ f=5.2 - 5.8 GHz

High power gain

GLP = 10 dB (TYP.) @ f=5.2 - 5.8GHz

High power added efficiency

P.A.E. = 32 % (TYP.) @ f=5.2 - 5.8GHz

#### **APPLICATION**

item 01: 5.2 - 5.8 GHz band power amplifier

item 51:5.2-5.8 GHz band digital radio communication

#### **QUALITY GRADE**

IG

## RECOMMENDED BIAS CONDITIONS

VDS = 10(V)

ID = 2.4 (A)

RG=50 (ohm)

#### ABSOLUTE MAXIMUM RATINGS

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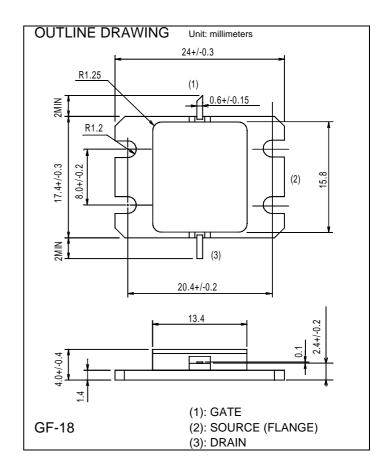
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain voltage	-15	V
VGSO	Gate to source voltage	-15	V
ID	Drain current	7.5	Α
IGR	Reverse gate current	-20	mA
IGF	Forward gate current	42	mA
PT	Total power dissipation *1	42.8	W
Tch	Channel temperature	175	deg.C
Tstg	Storage temperature	-65 / +175	deg.C
*1 · Tc_25dog	C		•

<sup>\*1 :</sup> Tc=25deg.C

### ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
-			Min.	Тур.	Max.	
IDSS	Saturated drain current	VDS = 3V , VGS = 0V	-	4.5	6	Α
gm	Transconductance	VDS = 3V , ID = 2.2A	-	2	-	S
VGS(off)	Gate to source cut-off voltage	VDS = 3V , ID = 40mA	-2	-3	-4	V
P1dB	Output power at 1dB gain compression		39.5	40.5	-	dBm
GLP	Linear power gain	VDS=10V, ID(RF off)=2.4A, f=5.2 - 5.8GHz	8	10	-	dB
ID	Drain current		-	2.4	-	Α
P.A.E.	Power added efficiency		-	32	-	%
Rth(ch-c)	Thermal resistance *1	delta Vf method	-	-	3.5	deg.C/W

<sup>\*1 :</sup> Channel-case



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material or (3)prevention against any malfunction or mishap.

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