

# 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

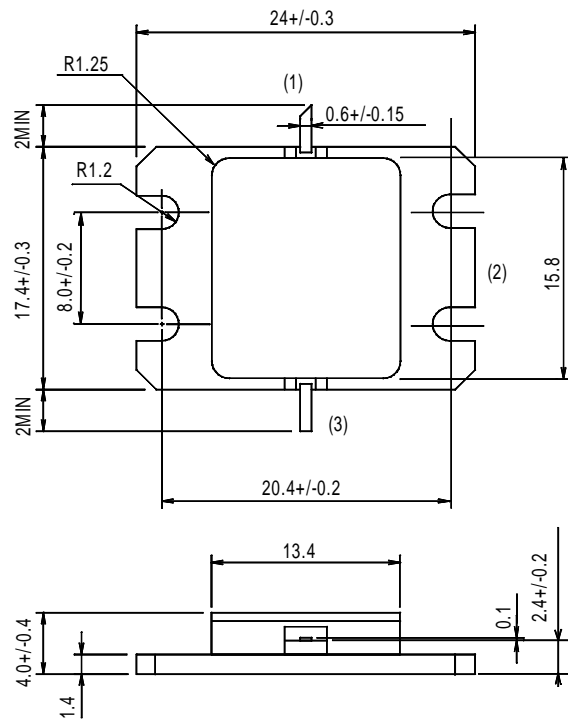
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### RECOMMENDED BIAS CONDITIONS

- VDS = 10 (V)
- ID = 2.4 (A)
- RG=50 (ohm)

### OUTLINE DRAWING

Unit: millimeters



GF-18

- (1): GATE
- (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	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 : 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	-	4.5	6	A
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	VDS=10V, ID(RF off)=2.4A, f=5.2 - 5.8GHz	39.5	40.5	-	dBm
GLP	Linear power gain		8	10	-	dB
ID	Drain current		-	2.4	-	A
P.A.E.	Power added efficiency		-	32	-	%
Rth(ch-c)	Thermal resistance *1		delta Vf method	-	-	3.5

\*1 : Channel-case

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