

< L/S band internally matched power GaAs FET >

MGFS45B2527B

2.5 – 2.7 GHz BAND / 30W

DESCRIPTION

The MGFS45B2527B is an internally impedance-matched GaAs power FET especially designed for use in 2.5 – 2.7 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

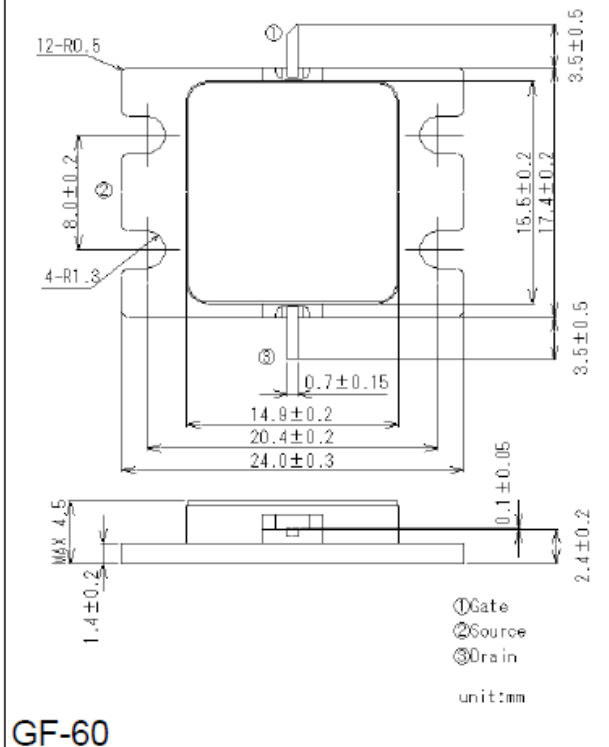
FEATURES

Class AB operation

Internally matched to 50(ohm) system

- High output power
Po(SAT)=30W (TYP.) @f=2.5 – 2.7GHz
- High power gain
GLP=12.5dB (TYP.) @f=2.5 – 2.7GHz
- Distortion
EVM=1.0% (TYP.) @f=2.5 – 2.7GHz, Po=34dBm
EVM=2.0% (TYP.) @f=2.5 – 2.7GHz, Po=37dBm

OUTLINE DRAWING



RECOMMENDED BIAS CONDITIONS

- VDS=12V • ID=0.9A • RG=10ohm

Absolute maximum ratings (Ta=25°C)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-10	V
MAXID	Maximum drain current	10	A
PT *1	Total power dissipation	78	W
Tch	Cannel temperature	175	°C
Tstg	Storage temperature	-55 to +150	°C

*1 : Tc=25°C

Electrical characteristics (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
VGS(off)	Gate to source cut-off voltage	VDS=3V, ID=100mA	-0.5	-	-3.0	V
Po(SAT)	Output Power	VDS=12V, ID(RF off)=0.9A f=2.5 – 2.7GHz	-	45	-	dBm
GLP	Power Gain	VDS=12V, ID(RF off)=0.9A f=2.5 – 2.7GHz, Pout=34dBm	10.0	12.5	-	dB
ID	Drain current		-	1.2	1.5	A
EVM *2	Error Vector Magnitude		-	1.0	2.0	%
Rth(ch-c) *3	Thermal resistance	delta Vf method	-	1.2	1.9	°C/W

*2 :WiMAX Downlink, 64QAM-3/4, Channel Bandwidth:6MHz

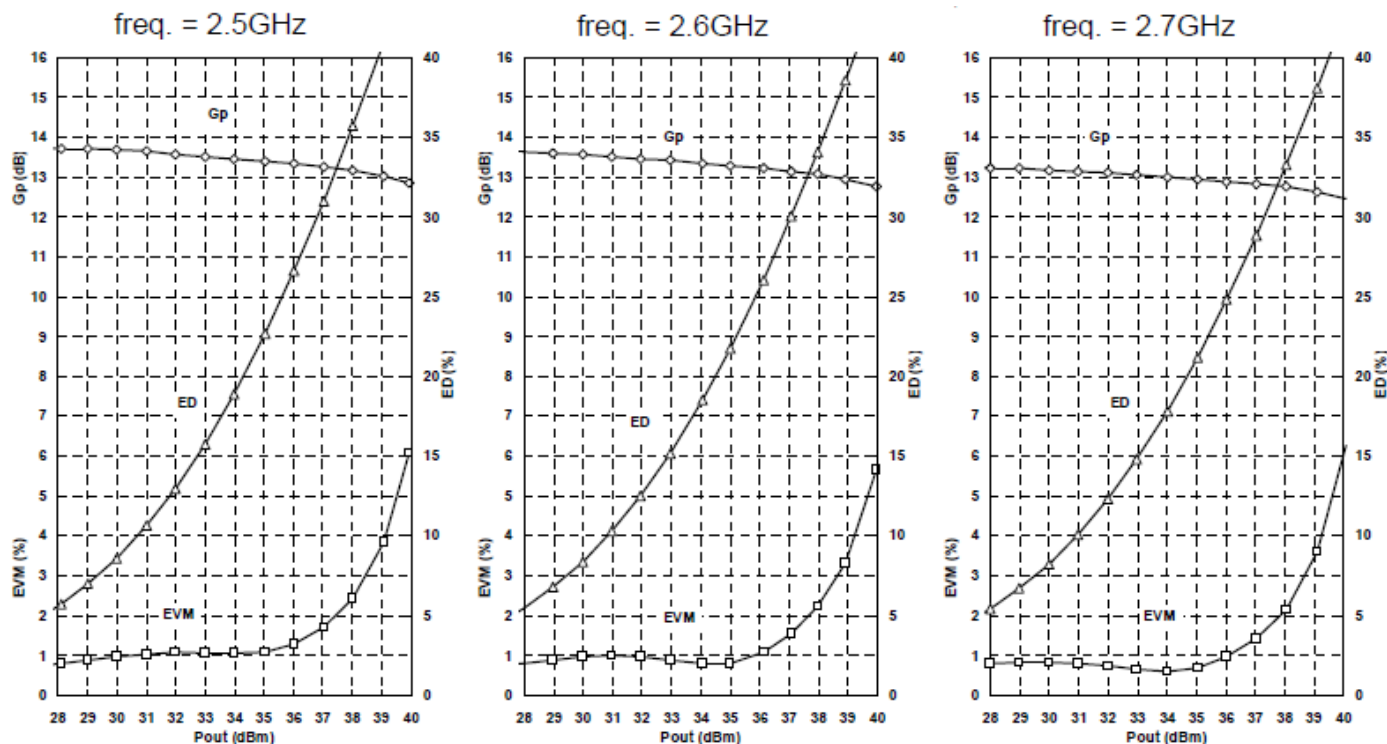
*3 :Channel-case

Keep Safety first in your circuit designs!

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MGFS45B2527B TYPICAL CHARACTERISTICS

EVM, GP, ED(@WiMAX) vs. Pout

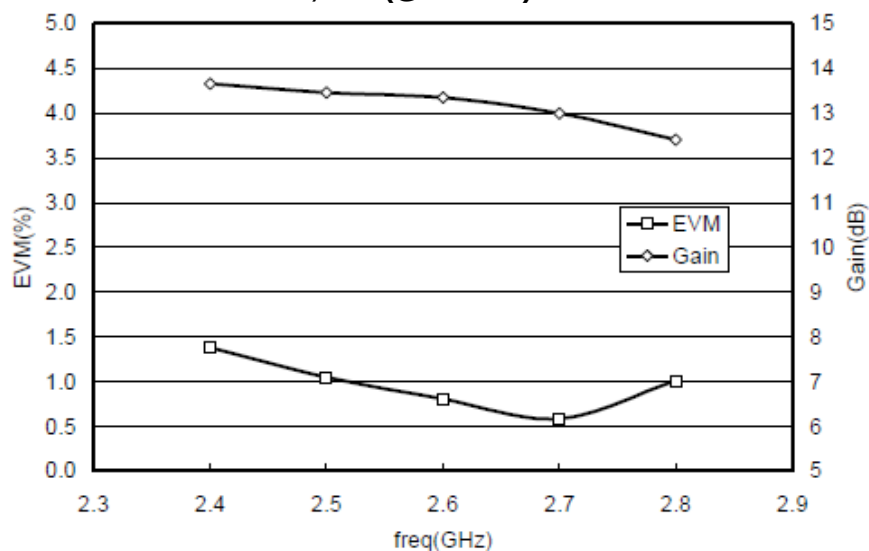


Test Condition

Vds=12V, Idq=0.9A, Ta=25deg.C

WiMAX: 64QAM-3/4, Bw=6MHz

EVM, Gain(@WiMAX) vs. f



Test Condition

Vds=12V, Idq=0.9A, Pout=34dBm, Ta=25deg.C

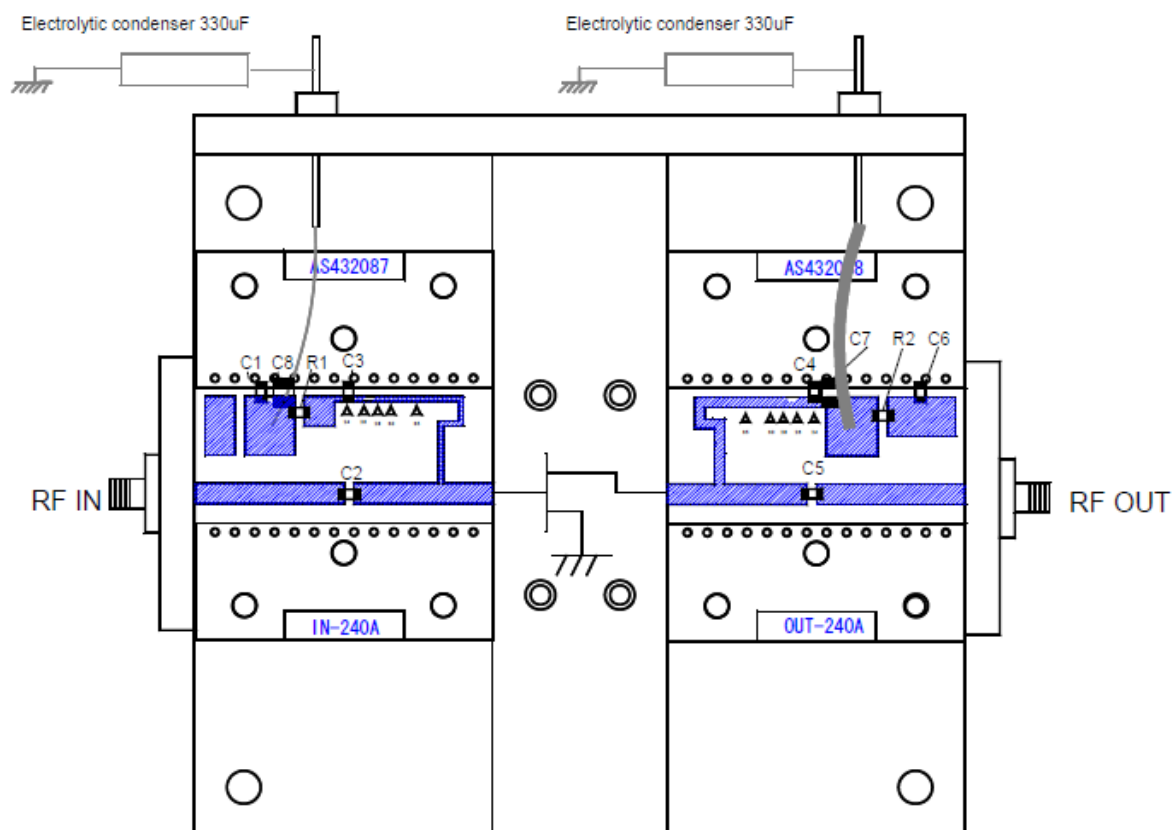
WiMAX: 64QAM-3/4, Bw=6MHz

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MGFS45B2527B RF TEST FIXTURE



C1,C6=1000pF

C3,C4=20pF

C2,C5=20pF

C7=470nF

C8=100nF

R1=CR10 10ohm

R2=CR10 51ohm

Board material :Teflon, t=0.8mm, Specific dielectric constant=2.6

UNIT:(mm)

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