MITSUBISHI ELECTRIC

< High-power GaAs FET (small signal gain stage) >

MGF1801BT

S to X BAND / 0.2W
non - matched

DESCRIPTION

The MGF1801BT, medium-power GaAs FET with an N-channel Schottky gate, is designed for use in S to X band amplifiers and oscillators. The hermetically sealed metalceramic package assures minimum parasitic lasses, and has a configuration suitable for microstrip circuits. The MGF1801BT is mounted in the super 24 tape.

FEATURES

- High linear power gain
  Glp=9.0dB @f=8GHz
- High P1dB
  P1dB=23dBm(TYP.) @f=8GHz
- High reliability and stability

APPLICATION

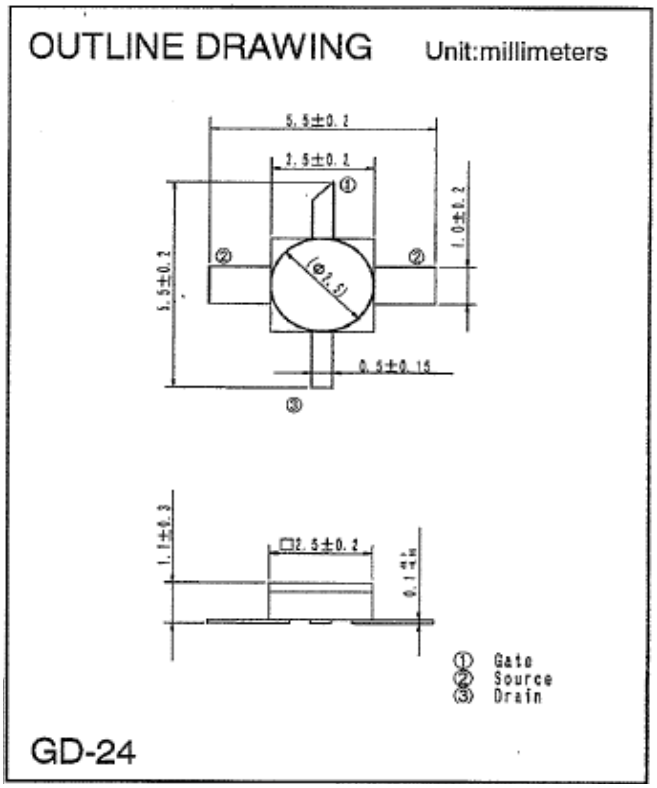
- S to X Band medium-power amplifiers and oscillators

QUALITY

- IG

RECOMMENDED BIAS CONDITION

- VDS=6V,Id=100mA



Absolute maximum ratings (Ta=25°C)

Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-8	V
VGSO	Gate to source breakdown voltage	-8	V
ID	Drain current	250	mA
IGR	Reverse gate current	-0.6	mA
IGF	Forward gate current	1.5	mA
PT	Total power dissipation	1.2	W
Tch	Cannel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°C

Keep Safety first in your circuit designs!

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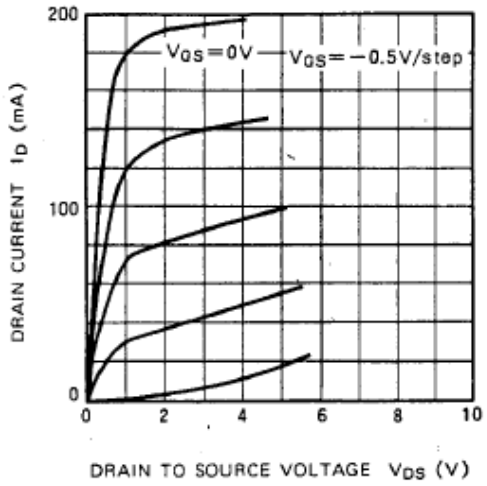
Electrical characteristics (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V(BR)GDO	Gate to drain breakdown voltage	Ig=200μA	-8	-	-	V
V(BR)GSO	Gate to source breakdown voltage	Ig=200μA	-8	-	-	V
IGSS	Gate to source leakage current	VDS=0V,VGS=-3V	-	-	20	μA
IDSS	Saturated drain current	VDS=3V,VGS=0V	150	200	250	mA
VGS(off)	Gate to source cut-off voltage	VDS=3V,ID=100μA	-1.5	-	-4.5	V
gm	Transconductance	VDS=3V,ID=100mA	70	90	-	mS
GLP	Linear Power Gain	VDS=6V,ID=100mA,f=12GHz	7	9	-	dB
P1dB	Output power at 1dB gain compression	VDS=6V,ID=100mA,f=12GHz	21.8	23	-	dBm

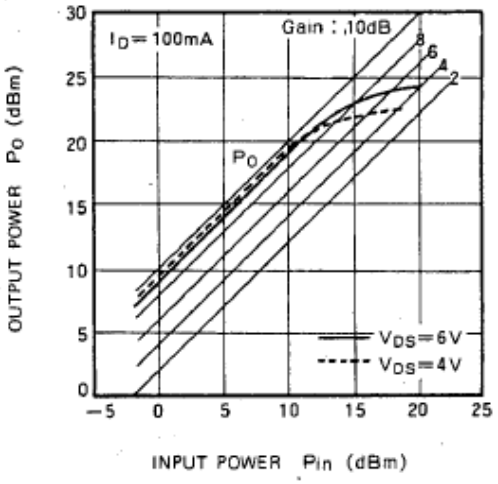
*1:Channel to ambient

MGF1801BT TYPICAL CHARACTERISTICS (Ta=25°C)

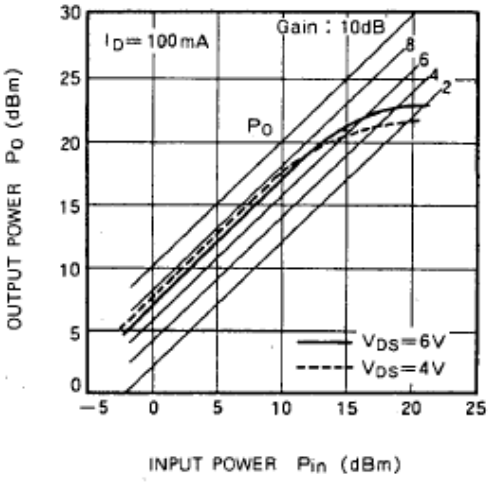
I_D vs. V_{DS}



P_o vs. P_{in} (f = 8 GHz)



P_o vs. P_{in} (f = 12 GHz)



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