

< X/Ku band internally matched power GaAs FET >

MGFK38A3745

13.75 – 14.50 GHz BAND / 6W

DESCRIPTION

The MGFK38A3745 is an internally impedance-matched GaAs power FET especially designed for use in 13.75 – 14.50 GHz band amplifiers. The hermetically sealed metal-ceramic package guarantees high reliability.

FEATURES

Internally matched to 50(ohm) system

- High output power
P1dB=6W (TYP.) @f=13.75 – 14.50GHz
- High power gain
GLP=8dB (TYP.) @f=13.75 – 14.50GHz
- High power added efficiency
P.A.E.=30% (TYP.) @f=13.75 – 14.50GHz

APPLICATION

- 13.75 – 14.50GHz band microwave high power amplifier

QUALITY

- IG

RECOMMENDED BIAS CONDITIONS

- VDS=10V • ID=1.5A • RG=100ohm Refer to Bias Procedure

Absolute maximum ratings (Ta=25°C)

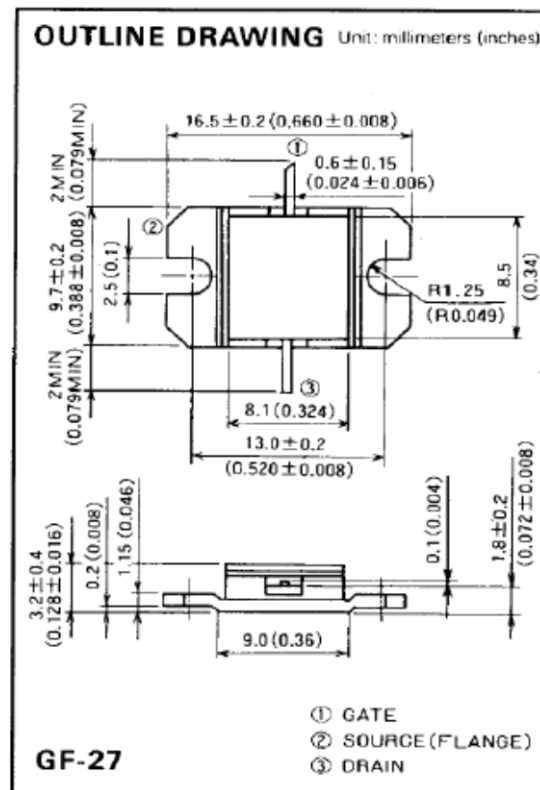
Symbol	Parameter	Ratings	Unit
VGDO	Gate to drain breakdown voltage	-15	V
VGSO	Gate to source breakdown voltage	-10	V
ID	Drain current	5.5	A
IGR	Reverse gate current	-17.5	mA
IGF	Forward gate current	22.4	mA
PT *1	Total power dissipation	37.5	W
Tch	Channel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°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=21mA	-1	-1.5	-3.0	V
P1dB	Output power at 1dB gain compression	VDS=10V, ID(RF off)=1.5A	37	38	-	dBm
GLP *2	Linear Power Gain	f=13.75 – 14.5GHz	7	8	-	dB
P.A.E.	Power added efficiency	Pin=23dBm *2	-	30	-	%
Rth(ch-c) *3	Thermal resistance	Delta Vf method	-	3.6	4	°C/W

*3 : Channel-case



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