



MA1046-1

For 1.9 GHz - Power Amplifier

MA1046

DESCRIPTION

The MA1046-1 is a 1.9 GHz band power amplifier (Po = +3.1W), constructed by 3 stages of GaAs MESFET, RF matching circuit, and DC bias circuit. The shield cap is made of metal. Input and Output impedances are designed to 50Ω.

FEATURES

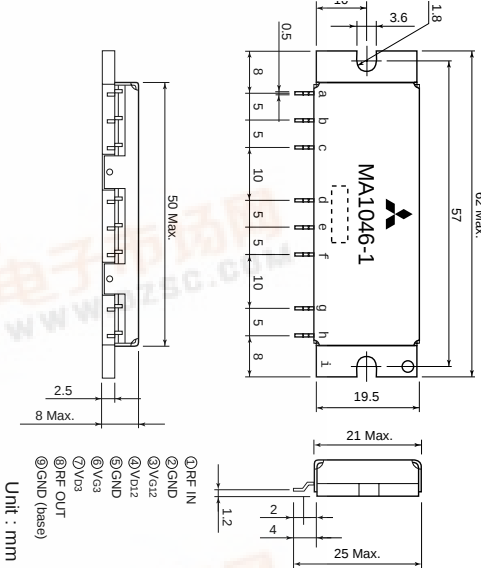
Po = +35.0 dBm, Gain = +32 dB (min.) @1.9 GHz
Vd1, 2 = +6.0V, Vd3 = +10.0V
Vg1, 2 = -5.0V, Vg3 = 3.0V

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APPLICATION

Power amplifier for PHS base station/Japan.

OUTLINE DRAWING



Note: 1. Dimension of leads: 0.25 × 0.5
2. Tolerance of dimension of leads interval: ±0.3
3. Tolerance of dimension except indications: ±0.3
4. Surface Leads: Tin Plating (Iron)
(Material)

Amplifier Specifications (MA1046-1)

1. Maximum Ratings (Ta=25°C)

No.	Items	Symbol	Condition	Standard	Unit
1	Case temperature	Tc		-20 ~ +70	°C
2	Storage temperature	Tstg		-40 ~ +95	°C
3	Voltage	Vd12, Vd 3	Vd 12 = -5.0 V, Vg 3 = -3.0 V	Vd 12 = 7.0 V, Vd 3 = 11.0 V	V
4	Gate Voltage	Vg 12, Vg 3	Vd 12 = 6.0 V, Vd 3 = 10.0 V	Vg 12 = -8.0 V, Vg 3 = -8.0 V	V
5	Input Power	Pin		+10 dBm	dBm

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2. Electrical Performances (Tc = +25°C, VD 1, 2 = 6V, VD3 = 10V, VG 1, 2 = -5V, VG 3 = -3V, Zg = Zi = 50Ω)

No.	Items	Symbol	Condition	Standard			Unit
				Min	Type	Max	
1	Frequency	f		1895	---	1918	MHz
2	Power Gain	G	Po = +35 dBm π / 4 Shift QPSK Modulation -PN9	33	---	---	dB
3	Temperature Characteristics (Power Gain)			---	---	±2	dB
4	Gain Variation	Δ G		---	---	±0.5	dB
5	Drain Current	Id 12		---	---	400	mA
		Id 3		---	---	1400	mA
6	Gate Current	Ig 12		---	---	2	mA
		Ig 3		---	---	5	mA
7	ACP	Δ 600 KHz ACP1		---	---	-65	dBc
		Δ 900 KHz ACP2		---	---	-70	dBc
8	Occupied Band Width	---		---	---	288	KHz
9	Input VSWR	p in	Po = +35 dBm Non-modulation	---	---	2.0	---
10	Spurious	In Band		---	---	-70	dBc
		Out Band	f ≤ 6 GHz	---	---	-60	dBc
		2 nd		---	---	-30	dBc
		3 rd		---	---	-45	dBc
11	Stability against load variation	---	Po = +35 dBm Load VSWR = 1:3 All Phase	There is no abnormal oscillating signal more than -60 dBc			
12	Intensity against load variation	---	Po = +35 dBm Zi = OPEN, SHORT 10 seconds each	There is no damage			

MA1046-1 Pin – Pout. ACP.

Typical Characteristics

