



# MA1114-1

For PCS - 30W Power Amplifier

MA1114-1

## DESCRIPTION

The MA1114-1 is a 30W power amplifier designed for PCS, which comprises 4 stages GaAs FET and 2 stages Si bipolar transistors, also RF power monitoring circuit.

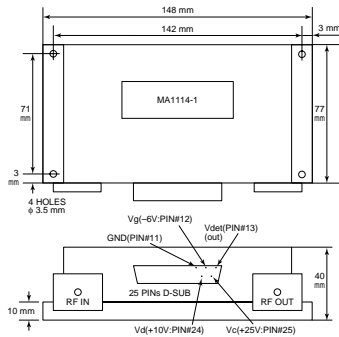
## FEATURES

- Specified +25/+10 Volt Characteristics
  - RF Output Power : +45 dBm (typ.)
  - Harmonics : -65 dBc typ.
- Small Size : 77 × 148 × 40 mm<sup>3</sup>
- 50 Ohm Input/Output Impedances

## APPLICATION

- PCS (1930 ~ 1990 MHz)  
Base station

## OUTLINE DRAWING



## 2. Electrical Performances (T<sub>c</sub> = +25°C, V<sub>c</sub> = +25V, V<sub>d</sub> = +10V, V<sub>g</sub> = -6V, Z<sub>g</sub> = Z<sub>l</sub> = 50Ω)

No.	Items	Symbol	Condition	Standard			Unit
				Min	Type	Max	
1	Frequency	f		1930	---	1990	MHz
2	Output Power	P <sub>out</sub>		+45	---	---	dBm
3	Output RF modulation spectrum ; from the carrier	---	P <sub>out</sub> = +45 dBm  (P <sub>in</sub> control)	---	---	---	dB
	100 KHz			---	---	+0.5	dB
	200 KHz			---	---	-30	dB
	250 KHz			---	---	-33	dB
	400 KHz			---	---	-60	dB
	600 KHz			---	---	-70	dB
	to < 1200 KHz			---	---	-73	dB
	1200 KHz			---	---	-75	dB
	to < 1800 KHz			---	---	-75	dB
	1800 KHz			---	---	-75	dB
	to < 6000 KHz			---	---	-80	dB
	≥ 6000 KHz			---	---	-80	dB
4	Spurious ; in-band out-band			---	---	-36	dBm
				---	---	-30	dBm
5	Harmonics	2fo 3fo 4fo	P <sub>out</sub> = +45 dBm	---	-60	---	dBc
				---	-65	---	dBc
				---	-70	---	dBc
6	Quiescent current	I <sub>oq</sub>	P <sub>in</sub> = 0mW	---	---	1.5	A

## Amplifier Specifications (MA1114-1)

### 1. Maximum Ratings

No.	Items	Symbol	Condition	Standard	Unit
1	Case temperature	T <sub>c</sub>		-40 ~ +70	°C
2	Storage temperature	T <sub>stg</sub>		-40 ~ +80	°C
3	Collector Voltage	V <sub>c</sub>		+26.0	V
4	Drain Voltage	V <sub>d</sub>	V <sub>g</sub> = -6V	+11.5	V
5	Gate Voltage	V <sub>g</sub>	V <sub>d</sub> = +10V	-10.0	V
6	RF Input Power	P <sub>in</sub>		-9.0	dBm