



MA1114-1

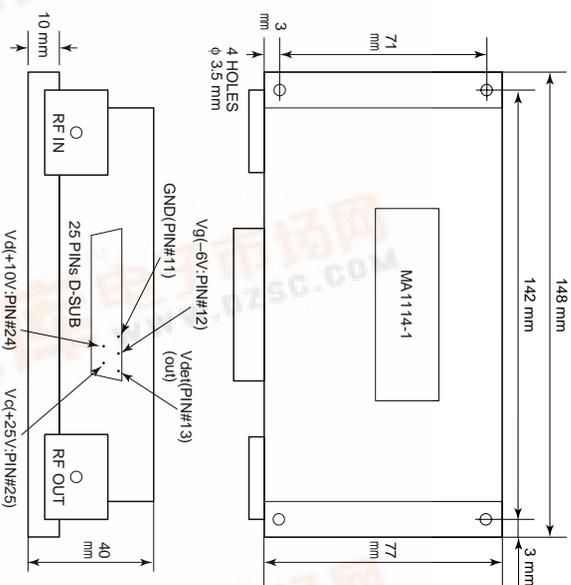
For PCS - 30W Power Amplifier

MA1114-

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.

OUTLINE DRAWING



FEATURES

- Specified +25/+10 Volt Characteristics
- RF Output Power : +45 dBm (typ.)
- Harmonics : -65 dBc typ.
- Small Size : 77 × 148 × 40 mm³
- 50 Ohm Input/Output Impedances

APPLICATION

- PCS (1930 ~ 1990 MHz)
- Base station

Amplifier Specifications (MA1114-1)

1. Maximum Ratings

| No. | Items | Symbol | Condition | Standard | Unit |
|-----|---------------------|------------------|-----------------------|-----------|------|
| 1 | Case temperature | T _c | | -40 ~ +70 | °C |
| 2 | Storage temperature | T _{stg} | | -40 ~ +80 | °C |
| 3 | Collector Voltage | V _c | | +26.0 | V |
| 4 | Drain Voltage | V _d | V _g = -6V | +11.5 | V |
| 5 | Gate Voltage | V _g | V _d = +10V | -10.0 | V |
| 6 | RF Input Power | P _{in} | | -9.0 | dBm |

2. Electrical Performances (T_c = +25°C, V_c = +25V, V_d = +10V, V_g = -6V, Z_g = Z_l = 50Ω)

| No. | Items | Symbol | Condition | Standard | | | Unit |
|-----|--|---|---|----------|------|------|------|
| | | | | Min | Type | Max | |
| 1 | Frequency | f | | 1930 | --- | 1990 | MHz |
| 2 | Output Power | P _{out} | | +45 | --- | --- | dBm |
| 3 | Output RF modulation spectrum : from the carrier | --- | P _{out} = +45 dBm (P _{in} 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 | | | --- | --- | -80 | dB |
| | to < 6000 KHZ | | | --- | --- | -80 | dB |
| | ≥ 6000 KHZ | | | --- | --- | -80 | dB |
| 4 | Spurious : in-band out-band | | | | | -36 | dBm |
| | | | | | | -30 | dBm |
| 5 | Harmonics | 2f ₀ 3f ₀ 4f ₀ | P _{out} = +45 dBm | | | -60 | dBc |
| | | | | | | -65 | dBc |
| | | | | | | -70 | dBc |
| 6 | Quiescent current | I _q | P _{in} = 0mW | | | --- | A |

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