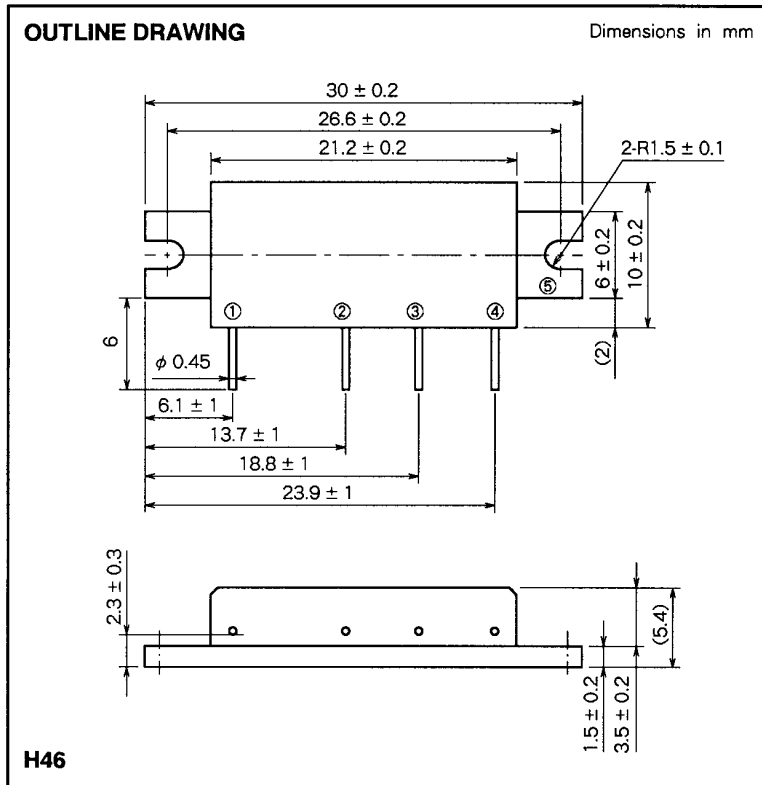
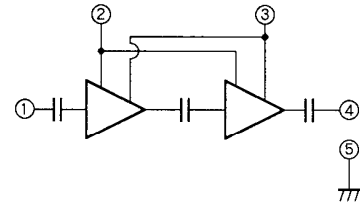


# M68710UH

470-520MHz, 6V, 2W FM PORTABLE RADIO



**BLOCK DIAGRAM**



PIN :

- ① Pin : RF INPUT
- ② V<sub>GG</sub> : GATE BIAS SUPPLY
- ③ V<sub>DD</sub> : DRAIN BIAS SUPPLY
- ④ P<sub>o</sub> : RF OUTPUT
- ⑤ GND : FIN

**ABSOLUTE MAXIMUM RATINGS** (T<sub>c</sub> = 25 °C unless otherwise noted)

| Symbol             | Parameter                  | Conditions   | Ratings     | Unit |
|--------------------|----------------------------|--|-------------|------|
| V <sub>DD</sub>    | Supply voltage             | V <sub>GG</sub> ≤ 3.5V, Z <sub>G</sub> = Z <sub>L</sub> = 50Ω              | 9           | V    |
| V <sub>GG</sub>    | Gate bias voltage          |  | 4           | V    |
| P <sub>in</sub>    | Input power                | f=470 to 520MHz, Z <sub>G</sub> =Z <sub>L</sub> =50Ω                       | 30          | mW   |
| P <sub>o</sub>     | Output power               | f=470 to 520MHz, V <sub>DD</sub> ≤ 9V, Z <sub>G</sub> =Z <sub>L</sub> =50Ω | 3           | W    |
| T <sub>C(OP)</sub> | Operation case temperature | f=470 to 520MHz, V <sub>DD</sub> ≤ 9V, Z <sub>G</sub> =Z <sub>L</sub> =50Ω | - 30 to 110 | °C   |
| T <sub>stg</sub>   | Storage temperature        |  | - 40 to 110 | °C   |

Note. Above parameters are guaranteed independently.

**ELECTRICAL CHARACTERISTICS** (T<sub>c</sub> = 25 °C, Z<sub>G</sub> = Z<sub>L</sub> = 50Ω, unless otherwise noted)

| Symbol          | Parameter           | Test conditions  | Limits                    |      | Unit |     |
|-----------------|---------------------|--|---------------------------|------|------|-----|
|                 |                     |  | Min                       | Max  |      |     |
| f               | Frequency range     |  | 470                       | 520  | MHz  |     |
| P <sub>o</sub>  | Output power        | V <sub>DD</sub> = 6V<br>V <sub>GG</sub> = 3.5V<br>P <sub>in</sub> = 20mW   | 2                         |      | W    |     |
| η <sub>T</sub>  | Total efficiency    |  | 40                        |      | %    |     |
| 2f <sub>o</sub> | 2nd. harmonic       |  |                           | - 25 |      | dBc |
| ρ <sub>in</sub> | Input VSWR          |  |                           | 4    |      | -   |
| -               | Stability           | Z <sub>G</sub> = 50Ω, V <sub>DD</sub> = 4 to 8V,<br>Load VSWR < 4 : 1  | No parasitic oscillation  |      | -    |     |
| -               | Load VSWR tolerance | V <sub>DD</sub> = 9V, P <sub>in</sub> = 20mW,<br>P <sub>o</sub> = 2W(V <sub>GG</sub> Adjust),<br>Z <sub>L</sub> = 20 : 1 | No degradation or destroy |      | -    |     |

Note : Above parameters, ratings, limits and conditions are subject to change.