

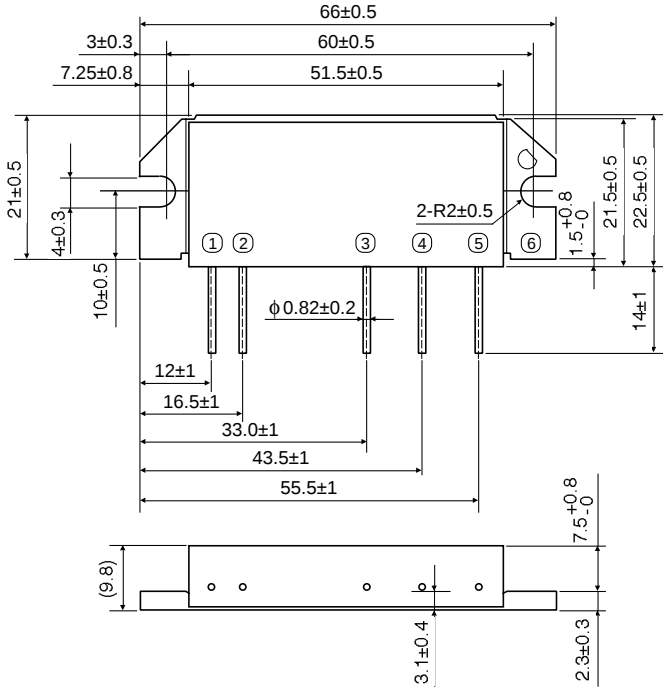
# MITSUBISHI RF POWER MODULE

## M68703MA

430-450MHz, 12.5V, 50W, FM MOBILE RADIO

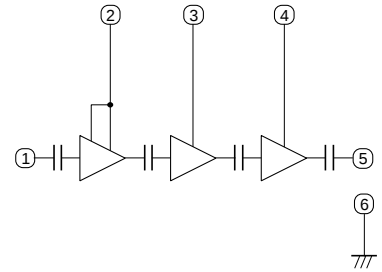
### OUTLINE DRAWING

Dimensions in mm



H3

### BLOCK DIAGRAM



PIN:

- ①Pin : RF INPUT
- ②Vcc1: 1st. DC SUPPLY
- ③Vcc2: 2nd. DC SUPPLY
- ④Vcc3: 3rd. DC SUPPLY
- ⑤Po : RF OUTPUT
- ⑥GND: FIN

### ABSOLUTE MAXIMUM RATINGS (Tc=25°C unless otherwise noted)

| Symbol                | Parameter                  | Conditions            | Ratings     | Unit |
|-----------------------|----------------------------|-----------------------|-------------|------|
| Vcc                   | Supply voltage             | ZG=ZL=50Ω             | 17          | V    |
| Icc                   | Total current              | ZG=ZL=50Ω             | 20          | A    |
| P <sub>in</sub> (max) | Input power                | ZG=ZL=50Ω, Vcc1≤12.5V | 600         | mW   |
| P <sub>o</sub> (max)  | Output power               | ZG=ZL=50Ω, Vcc1≤12.5V | 70          | W    |
| T <sub>c</sub> (OP)   | Operation case temperature | ZG=ZL=50Ω, Vcc1≤12.5V | -30 to +110 | °C   |
| T <sub>stg</sub>      | Storage temperature        |                       | -40 to +110 | °C   |

Note. Above parameters are guaranteed independently.

### ELECTRICAL CHARACTERISTICS (Tc=25°C unless otherwise noted)

| Symbol          | Parameter           | Test conditions                                                                                   | Limits                    |     | Unit |
|-----------------|---------------------|---------------------------------------------------------------------------------------------------|---------------------------|-----|------|
|                 |                     |                                                                                                   | Min                       | Max |      |
| f               | Frequency range     |                                                                                                   | 430                       | 450 | MHz  |
| P <sub>o</sub>  | Output power        | Vcc=12.5V, P <sub>in</sub> =400mW, ZG=ZL=50Ω                                                      | 50                        |     | W    |
| η <sub>T</sub>  | Total efficiency    |                                                                                                   | 35                        |     | %    |
| 2fo             | 2nd. harmonic       |                                                                                                   |                           | -30 | dBc  |
| 3fo             | 3rd. harmonic       |                                                                                                   |                           | -30 | dBc  |
| p <sub>in</sub> | Input VSWR          |                                                                                                   |                           | 3   | -    |
| -               | Load VSWR tolerance | Vcc=15.2V, P <sub>o</sub> =50W (P <sub>in</sub> :controlled)<br>ZG=50Ω, Load VSWR=8:1 (All phase) | No degradation or destroy |     | -    |

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