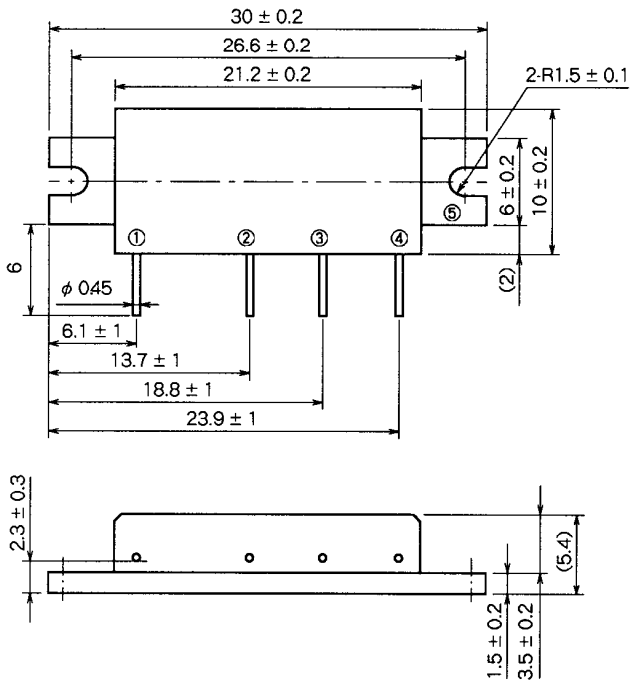
MITSUBISHI RF POWER MODULE

# M67798LA

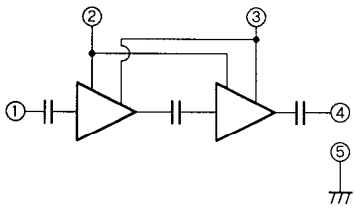
## 144-148MHz, 9.6V, 8W FM PORTABLE RADIO

**OUTLINE DRAWING** Dimensions in mm




H46

**BLOCK DIAGRAM**




PIN :
①Pin : RF INPUT
②VGG : GATE BIAS SUPPLY
③VDD : DRAIN BIAS SUPPLY
④Po : RF OUTPUT
⑤GND : FIN

**ABSOLUTE MAXIMUM RATINGS** ($T_C$ = 25℃ unless otherwise noted)

| Symbol | Parameter | Conditions | Ratings | Unit |
|---|---|---|---|---|
| $V_{DD}$ | Supply voltage | $V_{GG} \leqq 3.5V$, $Z_G = Z_L = 50\Omega$ | 16 | V |
| $V_{GG}$ | Gate bias voltage | | 4 | V |
| $P_{in}$ | Input power | f = 144 to 148MHz, $Z_G = Z_L = 50\Omega$ | 30 | mW |
| $P_O$ | Output power | f = 144 to 148MHz, $Z_G = Z_L = 50\Omega$ | 10 | W |
| $T_{C(OP)}$ | Operation case temperature | f = 144 to 148MHz, $Z_G = Z_L = 50\Omega$ | − 30 to 100 | ℃ |
| $T_{stg}$ | Storage temperature | | − 40 to 110 | ℃ |

Note : Above parameters are guaranteed independently.

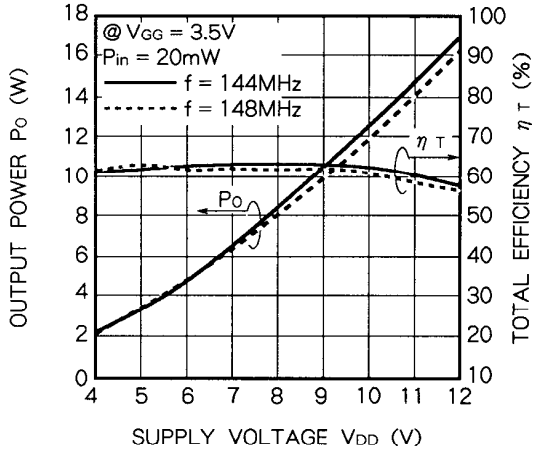
**ELECTRICAL CHARACTERISTICS** ($T_C$ = 25℃, $Z_G = Z_L = 50\Omega$, unless otherwise noted)

| Symbol | Parameter | Test conditions | Limits | | Unit |
|---|---|---|---|---|---|
| | | | Min | Max | |
| f | Frequency range | | 144 | 148 | MHz |
| $P_O$ | Output power | $V_{DD}$ = 9.6V<br>$V_{GG}$ = 3.5V<br>$P_{in}$ = 20mW | 8 | − | W |
| $\eta_T$ | Total efficiency | | 53 | − | % |
| 2fo | 2nd. harmonic | | − | − 20 | dBc |
| 3fo | 3rd. harmonic | | | − 30 | dBc |
| $\rho_{in}$ | Input VSWR | | − | 3 | − |
| − | Stability | $Z_G = 50\Omega$, $V_{DD}$ = 4.8 to 13.2V, Load VSWR < 4 : 1 | No parasitic oscillation | | − |
| − | Load VSWR tolerance | $V_{DD}$ = 13.2V, $P_{in}$ = 20mW, $P_O$ = 8W($V_{GG}$ Adjust), $Z_L$ = 20 : 1 | No degradation or destroy | | − |

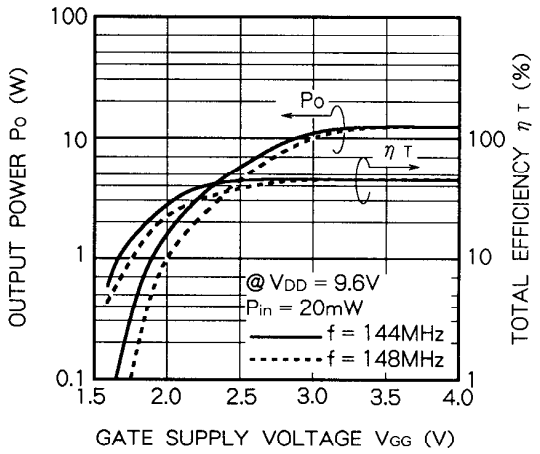
Note : Above parameters, ratings, limits and conditions are subject to change.

## TYPICAL PERFORMANCE DATA

**OUTPUT POWER, TOTAL EFFICIENCY VS. SUPPLY VOLTAGE CHARACTERISTICS**




**OUTPUT POWER, TOTAL EFFICIENCY VS. GATE SUPPLY VOLTAGE CHARACTERISTICS**




**OUTPUT POWER, TOTAL EFFICIENCY VS. FREQUENCY CHARACTERISTICS**

