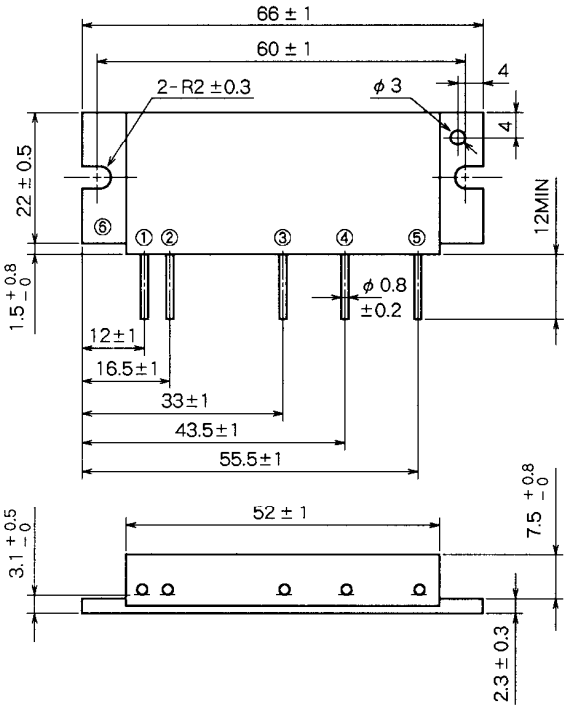
MITSUBISHI RF POWER MODULE

# M57788SH

490-512MHz, 12.5V, 40W, FM MOBILE RADIO

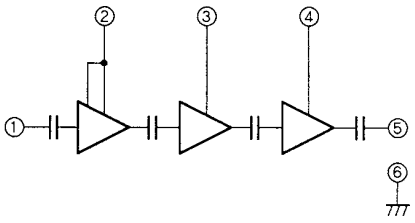
## OUTLINE DRAWING

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℃ unless otherwise noted)

| Symbol | Parameter | Conditions | Ratings | Unit |
|---|---|---|---|---|
| $V_{CC1}$ | Supply voltage | | 16 | V |
| $V_{CC2,3}$ | | | 17 | V |
| $I_{CC}$ | Total current | | 12 | A |
| $P_{in(max)}$ | Input power | $Z_G = Z_L = 50\ \Omega$ | 0.5 | W |
| $P_{O(max)}$ | Output power | $Z_G = Z_L = 50\ \Omega$ | 50 | W |
| $T_{C(OP)}$ | Operation case temperature | | − 30 to 110 | ℃ |
| $T_{stg}$ | Storage temperature | | − 40 to 110 | ℃ |

Note. Above parameters are guaranteed independently.

## ELECTRICAL CHARACTERISTICS (Tc = 25℃ unless otherwise noted)

| Symbol | Parameter | Test conditions | Limits | | Unit |
|---|---|---|---|---|---|
| | | | Min | Max | |
| f | Frequency range | $P_{in}$ = 0.3W<br>$V_{CC}$ = 12.5V<br>$Z_G = Z_L = 50\ \Omega$ | 490 | 512 | MHz |
| $P_O$ | Output power | | 40 | | W |
| $\eta_T$ | Total efficiency | | 40 | | % |
| 2fo | 2nd. harmonic | | | − 30 | dBc |
| 3fo | 3rd. harmonic | | | − 30 | dBc |
| $\rho_{in}$ | Input VSWR | | | 3.5 | − |
| − | Load VSWR tolerance | $V_{CC}$ = 15.2V,<br>$P_O$ = 40W ($P_{in}$ : controlled)<br>Load VSWR = 8.8 : 1 (All phase),<br>$Z_G = 50\ \Omega$ | No degradation or destroy | | − |

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