

ATTENTION  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
SENSITIVE  
DEVICES

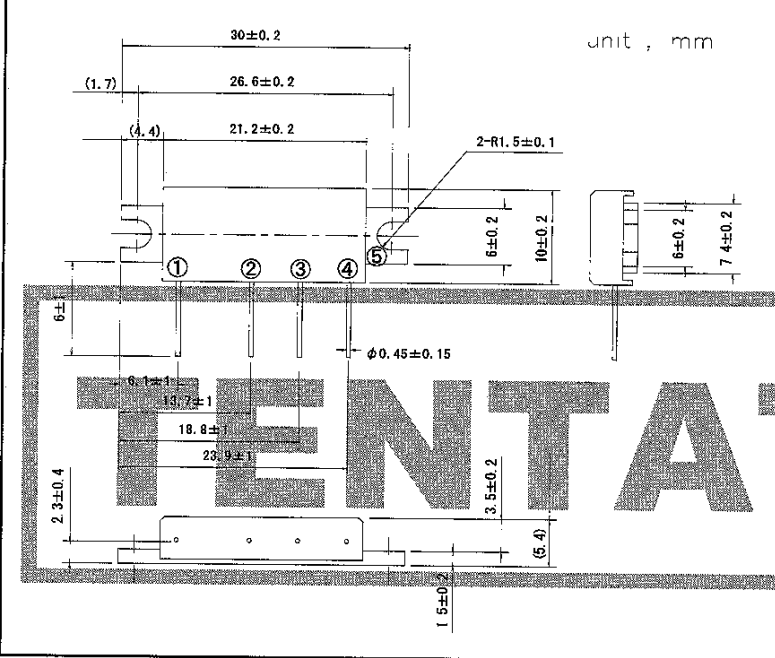
Revision date: 5<sup>th</sup>/Feb. '02

MITSUBISHI RF POWER MODULE

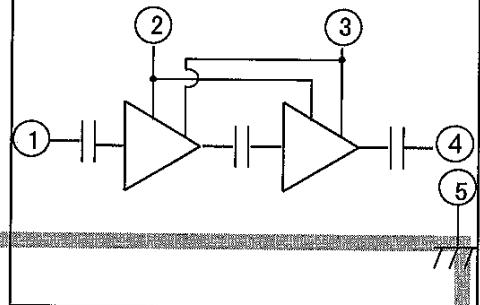
# RA07N3340M

Silicon MOS FET Power Amplifier, 330-400MHz 7W PORTABLE RADIO

## OUTLINE DRAWING



## 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

## MAXIMUM RATINGS (T<sub>c</sub>=25deg.C UNLESS OTHERWISE NOTED)

SYMBOL	PARAMETER	CONDITIONS	RATINGS	UNIT
V <sub>DD</sub>	SUPPLY VOLTAGE	Z <sub>g</sub> =Z <sub>l</sub> =50ohm	16	V
V <sub>GG</sub>	GATE BIAS VOLTAGE	V <sub>DD</sub> <9.6V, Pin=0mW, Z <sub>g</sub> =Z <sub>l</sub> =50ohm	4	V
P <sub>in</sub>	INPUT POWER	f=330-400MHz, Z <sub>g</sub> =Z <sub>l</sub> =50ohm	40	mW
P <sub>o</sub>	OUTPUT POWER	f=330-400MHz, Z <sub>g</sub> =Z <sub>l</sub> =50ohm	10	W
T <sub>c(OP)</sub>	OPERATION CASE TEMPERATURE	f=330-400MHz, Z <sub>g</sub> =Z <sub>l</sub> =50ohm	-30 to +110	deg.C
T <sub>stg</sub>	STORAGE TEMPERATURE		-40 to +110	deg.C

Note: Above parameters are guaranteed independently.

## ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25deg.C, Z<sub>g</sub>=Z<sub>l</sub>=50ohm UNLESS OTHERWISE NOTED)

SYMBOL	PARAMETER	CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
f	FREQUENCY RANGE		330		400	MHz
P <sub>o</sub>	OUTPUT POWER	V <sub>DD</sub> =9.6V, V <sub>GG</sub> =3.5V, Pin=20mW	7.5	8.0		W
E <sub>t</sub>	TOTAL EFFICIENCY	P <sub>o</sub> =7W (V <sub>GG</sub> =adjust), V <sub>DD</sub> =9.6V, Pin=20mW,	43	46		%
2f <sub>o</sub>	2nd HARMONIC			-30	-25	dBc
VSWR <sub>in</sub>	INPUT VSWR			2.5	4	-
	Stability	Z <sub>g</sub> =50ohm, V <sub>DD</sub> =4.8 - 15.0V, LOAD VSWR = 4:1, Pin=10 - 30mW, P <sub>o</sub> <8W (V <sub>GG</sub> Control)	No parasitic oscillation			
	LOAD VSWR TOLERANCE	V <sub>DD</sub> =13.2V, Pin=20mW, P <sub>o</sub> =7.5W (V <sub>GG</sub> Control), Z <sub>g</sub> =50ohm, LOAD VSWR = 20:1	No degradation or destroy			-

ABOVE PARAMETERS, RATINGS, LIMITS AND CONDITIONS ARE SUBJECT TO CHANGE .

Keep safety first in your circuit designs!

Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of non-flammable material or (iii) prevention against any malfunction or mishap.