#### TOSHIBA RF POWER AMPLIFIER MODULE

**S-AV36** 

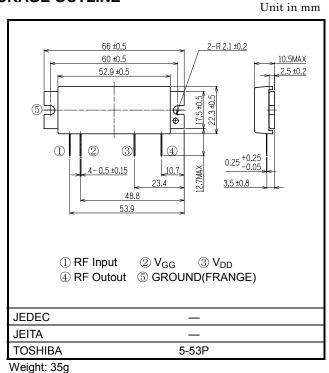
### OFM RF POWER AMPLIFIER MODULE for VHF BAND

- ·Output Power :80W (Min.)
- Power Gain :32.0dB (Min.)
- ·Total Efficiency:45% (Min.)

# MAXIMUM RATINGS (Tc = 25°C, $Z_G = Z_L = 50 \Omega$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	RATING	UNIT
DC Supply Voltage	V <sub>DD</sub>	V <sub>GG</sub> =0V, Pi =0mW	16.5	V
DC Supply Voltage	V <sub>DD</sub>	V <sub>GG</sub> ≦5V, Pi =50mW, Po≦60W	16.5	V
DC Supply Voltage	V <sub>GG</sub>	V <sub>DD</sub> ≦12.5V, Pi =50mW	5.5	V
Total Current	Ι <sub>Τ</sub>	V <sub>DD</sub> ≦12.5V, Pi =50mW	15	А
Input Power	Pi	$V_{DD} \leq 12.5V, V_{GG} \leq 5V$	100	mW
Output Power	Po	12.5V< $V_{DD} \leq 16.5V$ , $V_{GG} \leq 5V$ , Pi =50mW	90	W
Operating Case Temperature Range	T <sub>c (opr)</sub>	V <sub>GG</sub> ≦5V	-30~100	°C
Storage Temperature Range	T <sub>stg</sub>		-40~110	°C

Caution: This maximum rating given in a sheet guarantees each item independently. When two items or more of maximum rated items joins a device at once. It becomes the outside of a guarantee. Please design in circuit to make it always operate within this reguration also on the worst condition.



## PACKAGE OUTLINE

# ELECTRICAL CHARACTERISTICS (Tc = $25^{\circ}$ C, Z<sub>G</sub> = $50 \Omega$ )

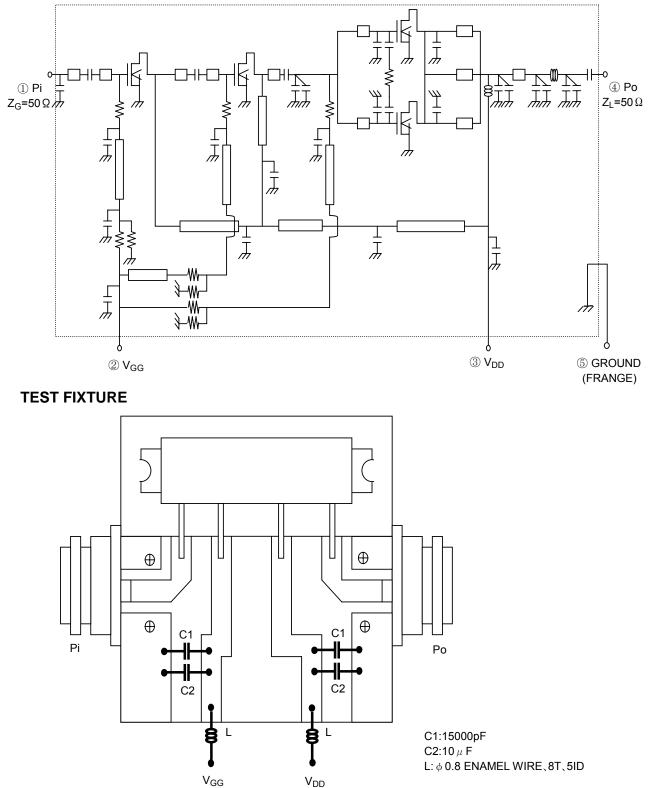
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	f <sub>range</sub>	—	134	_	174	MHz
Total Current ( DC operation )	Ι <sub>Τ</sub>	$V_{DD}$ = 12.5V, $V_{GG}$ = 5V, Pi = 0mW Z <sub>L</sub> = 50 $\Omega$	_	_	15	А
Output Power	Po	V <sub>DD</sub> = 12.5V V <sub>GG</sub> = 5V Pi = 50mW Z <sub>L</sub> = 50 Ω	80	_	_	W
Power Gain	Gp		32.0	_	_	dB
Total Efficiency	η <sub>T</sub>		45		_	%
Input VSWR	VSWRin			_	3.0	_
Second Harmonic	2nd HRM			_	-25	dB
Third Harmonic	3rd HRM			_	-30	dB
Load Mismatch	_	$V_{DD}$ = 10.5 to 16.5V, $V_{GG}$ = 0 to 5V Pi = 50mW P <sub>o</sub> = 80W ( $V_{GG}$ = adjust.@ Z <sub>L</sub> = 50 $\Omega$ ) VSWR LOAD 20: 1 ALL PHASE (@2s)	No Degradation			_
Stability	_	$\begin{array}{l} {\sf V}_{DD} = 10.5 \mbox{ to } 16.5 \mbox{V}, {\sf V}_{GG} = 0 \mbox{ to } 5 \mbox{V} \\ {\sf P}_i = 50 \mbox{W} \\ {\sf P}_o \equiv \leq 80 \mbox{W} \mbox{(V}_{GG} = \mbox{adjust,} \mbox{@} \end{z}_L = 50 \mbox{\Omega} \mbox{)} \\ {\sf VSWR \mbox{ LOAD } 3: 1 \mbox{ ALL PHASE} } \end{array}$	All spurious output than 60dB below desired signal			_

Caution

- This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.
- Do not break, cut, crush or dissolve chemically. Dispose of this product properly according to law. Do not intermingle with normal industrial or domestic waste.
- This product is electrostatic sensitivity, please handle with caution.
- This product is flowed high current for a VDD terminal at both RF ON and RF OFF. And it has large calorific value for high output poer. So please use it within the limit of the maximum rating. The view of the maximum rating of our company,
  - "The absolute maximum ratings are rated values which must not be exceeded during operatin, even for an instant. And it guarantees each item independently. When two items or more of maximum rated items joins a device at once. It becomes the outside of a guarantee. "

# **TOSHIBA**

## SCHEMATIC



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