TOSHIBA RF POWER AMPLIFIER MODULE

S-AU86

ORF POWER AMPLIFIER MODULE for 800MHz Digital MCA

ABSOLUTE MAXIMUM RATINGS (T_C = 25°C, $Z_G = Z_L$ = 50Ω)

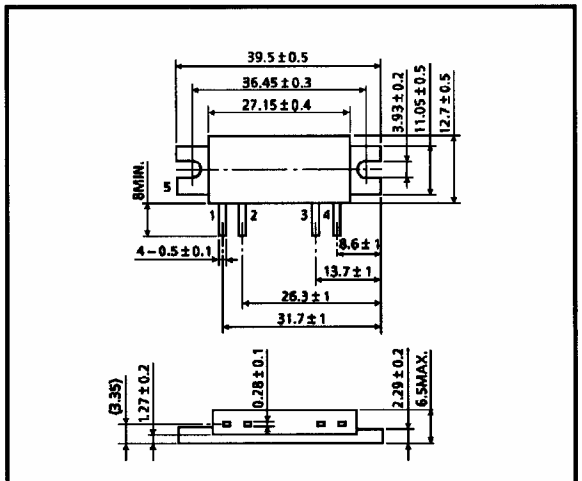
CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	17	V
DC Supply Voltage	V_{GG}	9	V
Input Power	P_i	320	mW
Operating Case Temperature Range	$T_{c\ (opr)}$	-30~100	°C
Storage Temperature Range	T_{stg}	-40~110	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings and the operating ranges.
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/“Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Caution: This absolute 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 regulation also on the worst condition.

PACKAGE OUTLINE

Unit in mm



1. INPUT
2. V_{APC}
3. V_{DD}
4. OUTPUT
5. GROUND (FLANGE)

JEDEC	—
EIAJ	—
TOSHIBA	5-28C

Weight : 18g

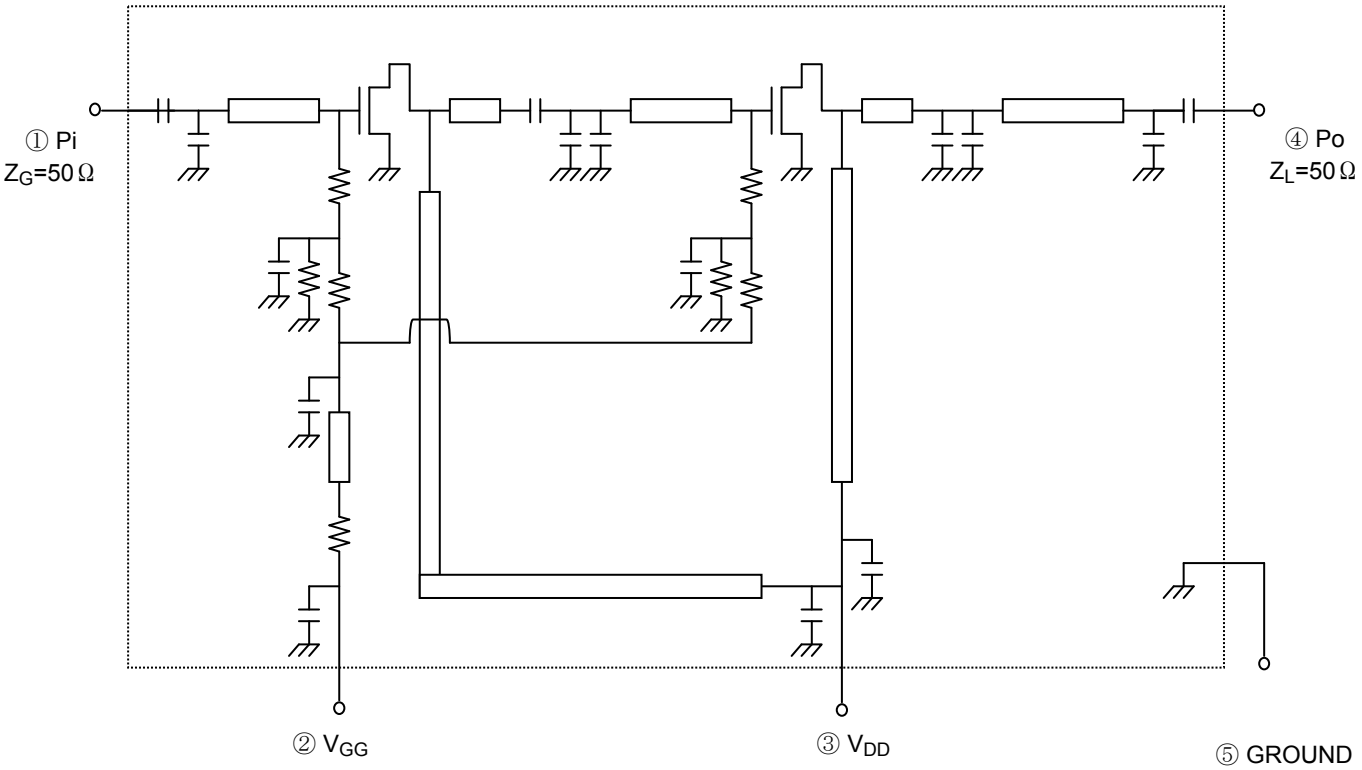
ELECTRICAL CHARACTERISTICS (Tc = 25°C, Z_G = 50Ω)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	f_{range}	—	889	—	915	MHz
Output Power	Po	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 20dBmW, Z_L = 50Ω	40	—	—	dBmW
Input Power	Pi	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW Z_L = 50Ω	—	—	7	dBmW
Gate Bias Voltage	V_{GG}	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust), Z_L = 50Ω	—	—	8	V
Gate Bias Current	I_{GGBias}	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust), Z_L = 50Ω After that Pi OFF	—	—	10	mA
Adjacent-Channel Power Ratio	ACP	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust), Z_L = 50Ω Modulated Wave : π /4·DQPSK (α=0.5, 32kbps) Band Width : 16kHz Frequency Offset : 25kHz	—	—	-39	dB
Second Harmonic	2nd HRM	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust), Z_L = 50Ω	—	—	-30	dB
Third Harmonic	3rd HRM		—	—	-30	dB
Harmonic	HRM		—	—	-35	dB
Ralative Phase Variation	—	V_{DD}= 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Z_L = 50Ω, 0° (@Po = 35dBmW) Po = 5 to 40dBmW	—	—	±5	°
Load Mismatch	—	V_{DD} = 12.0V, I_{DD} = 1.7A (V_{GG} = adjust) Pi = 40dBmW (Pi= adjust, @Z_L = 50Ω VSWR LOAD 20: 1 ALL PHASE	No Degradation			—
Stability	—	V_{DD} = 10.0 to 16.0V, V_{GG} = 1.0 to 9.0V Pi = -40 to 25dBmW VSWR LOAD 6: 1 ALL PHASE	All spurious output than 60dB below desired signal			—

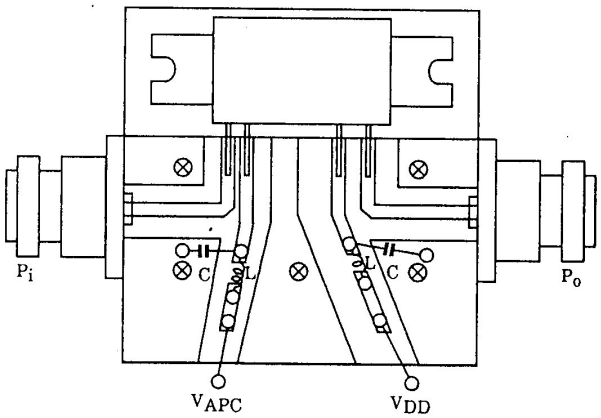
Caution

- 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.

SCHEMATIC



TEST FIXTURE



C:10000pF,10 μ F PARALLEL
L: ϕ 0.8 ENAMEL WIRE、5T、3ID

RESTRICTIONS ON PRODUCT USE

20070701-EN GENERAL

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