TOSHIBA RF Power Amplifier Module

S−AU94

UHF Band FM Power Amplifier Module

Hand-Held Transceiver

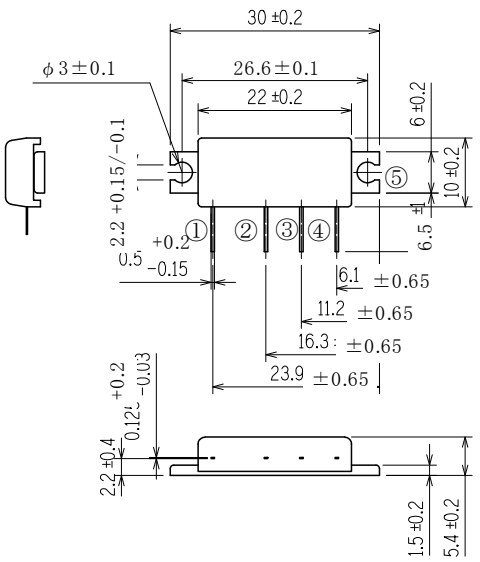
Absolute Maximum Ratings (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	17	V
DC Supply Voltage	V_{GG}	6	V
Input Power	Pi	75	mW
Output Power	Po	12	W
Total Current	I_T	3	A
Operating Case Temperature Range	$T_{c\ (opr)}$	−30 to 100	°C
Storage Temperature Range	T_{stg}	−40 to 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).

Package Outline

Unit in mm



1. RF INPUT
2. VGG
3. VDD
4. RF OUTPUT
5. GROUND (FLANGE)

JEDEC	-
JEITA	-
TOSHIBA	5-23F

Weight: 3.5 g (typ.)

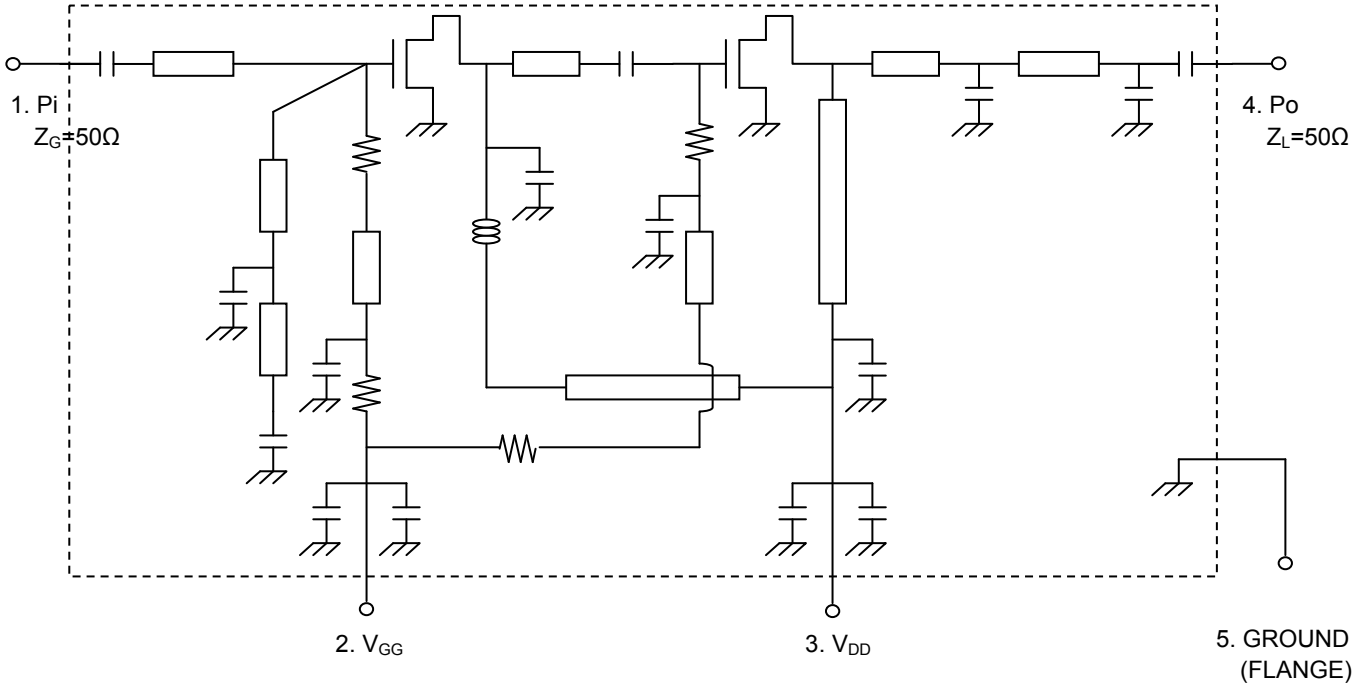
Electrical Characteristics (Tc = 25°C, Z_G = 50Ω)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Frequency Range	f_{range}	—	450	—	490	MHz
Output Power	Po	V_{DD} = 9.6V, V_{GG} = 4.0V Pi = 25mW, Z_L = 50Ω	7.55	—	—	W
Power Gain	G_p		24.8	—	—	dB
Total Efficiency	η_T		40	—	—	%
Input VSWR	VSWRin		—	—	4.5	—
Harmonics	HRM		—	—	−30	dB
Load Mismatch	—	V_{DD} = 11.5V, Pi = 25mW Po = 7W (V_{GG} = adjust) VSWR LOAD 20: 1 ALL PHASE	No Degradation			—
Stability	—	V_{DD} = 7.5 to 11.5V, V_{GG}= 0 to 4V Pi = 25mW VSWR LOAD 3 : 1 ALL PHASE	All spurious output than 60dB below desired signal			—

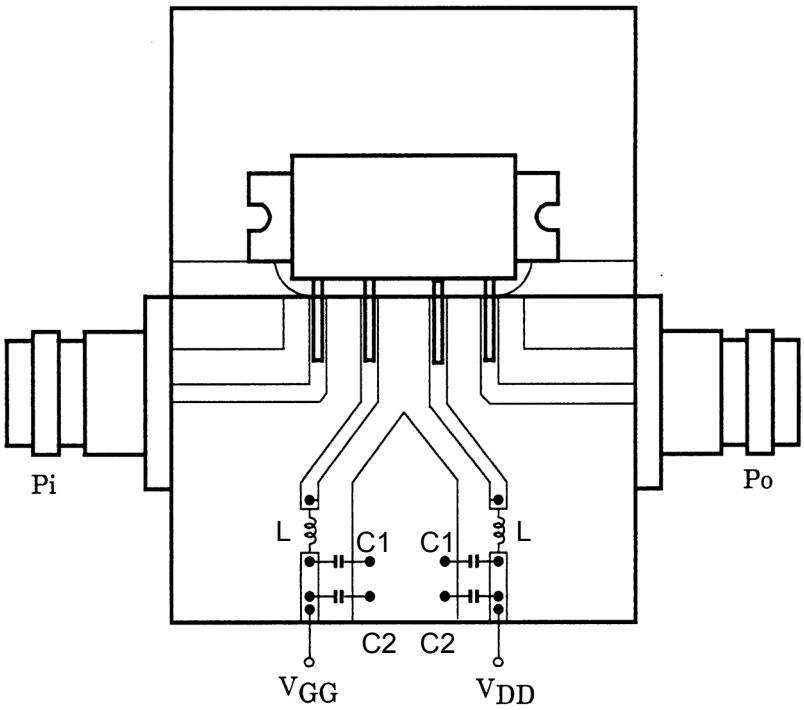
Caution

- This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.
- This product is electrostatic sensitivity, please handle with caution.

Schematic



Test Fixture



C1 : 10000pF
C2 : 10μF
L : ϕ0.8 ENAMEL WIRE 8T 5ID

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