TOSHIBA RF POWER AMPLIFIER MODULE

S−AV38

○RF POWER AMPLIFIER MODULE for VHF BAND

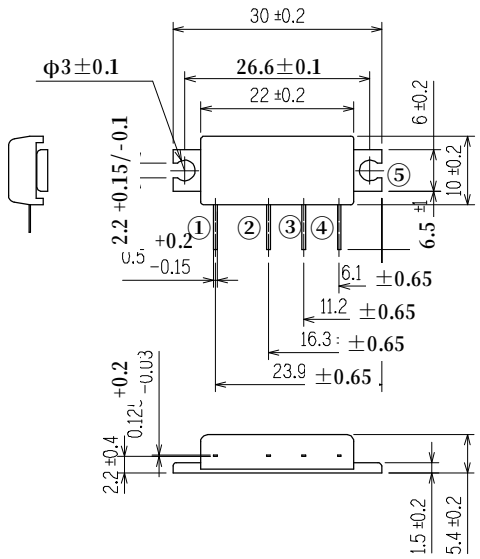
・for digital use

MAXIMUM RATINGS (Tc = 25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	17	V
DC Supply Voltage	V_{GG}	7	V
Input Power	Pi	17	dBmW
Operating Case Temperature Range	$T_{c\ (opr)}$	−30~100	℃
Storage Temperature Range	T_{stg}	−40~110	℃

PACKAGE OUTLINE

Unit in mm



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

JEDEC	-
JEITA	-
TOSHIBA	5-23F

Weight:3.5g

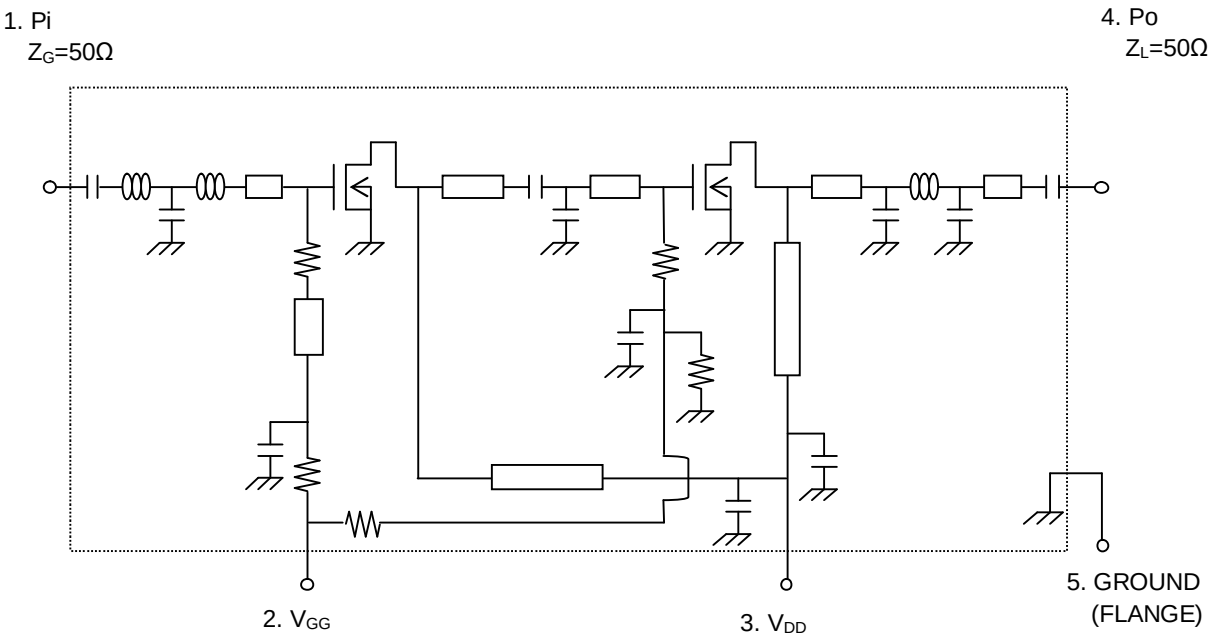
ELECTRICAL CHARACTERISTICS (Tc = 25℃, Z_G = 50Ω)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	f_{range}	—	260	—	266	MHz
Output Power	Po	V_{DD} = 7.2V, Po=35dBmW(Pi=adjust) I_{DD}=1.7A(V_{GG} = adjust) , Z_L = 50Ω After that Pi = 15dBmW	38.8	—	—	dBmW
Input Power	Pi	V_{DD} = 7.2V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW(Pi=adjust), Z_L = 50Ω	—	—	5	dBmW
Gate Bias Voltage	V_{GG}	V_{DD} = 7.2V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW(Pi=adjust), Z_L = 50Ω	2.5	—	3.5	V
Gate Bias Current	I_{GGBias}	V_{DD} = 7.2V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust), Z_L = 50Ω After that Pi OFF	—	—	1	mA
Adjacent-Channel Power Ratio	ACP	V_{DD} = 7.2V, 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	—	—	-35	dB
Second Harmonic	2nd HRM	V_{DD} = 7.2V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust), Z_L = 50Ω	—	—	-27	dB
Third Harmonic	3rd HRM		—	—	-30	dB
Harmonic	HRM		—	—	-35	dB
Rate of Adjustment for Input Load	VSWRin	Input VSWR (When RF output pin connects 50Ω Load)	—	—	3	—
Rate of Adjustment for Output Load	VSWRout	Input VSWR (When RF input pin connects 50Ω Load)	—	—	2.5	—
Ralative Phase Variation	—	V_{DD}= 7.2V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 5 to 35dBmW (Pi= adjust) Z_L = 50Ω (@ Po = 35dBmW)	—	—	±12	°
Load Mismatch	—	V_{DD} = 7.2V, I_{DD} = 1.7A (V_{GG} = adjust) Po = 35dBmW (Pi= adjust, Z_L = 50Ω) VSWR LOAD 20: 1 ALL PHASE	No Degradation			—
Stability	—	V_{DD} = 6.0 to 9.0V, V_{GG} = 1 to 5V Pi = -40 to 13 dBmW VSWR LOAD 3: 1 ALL PHASE	All spurious output than 60dB below desired signal			—

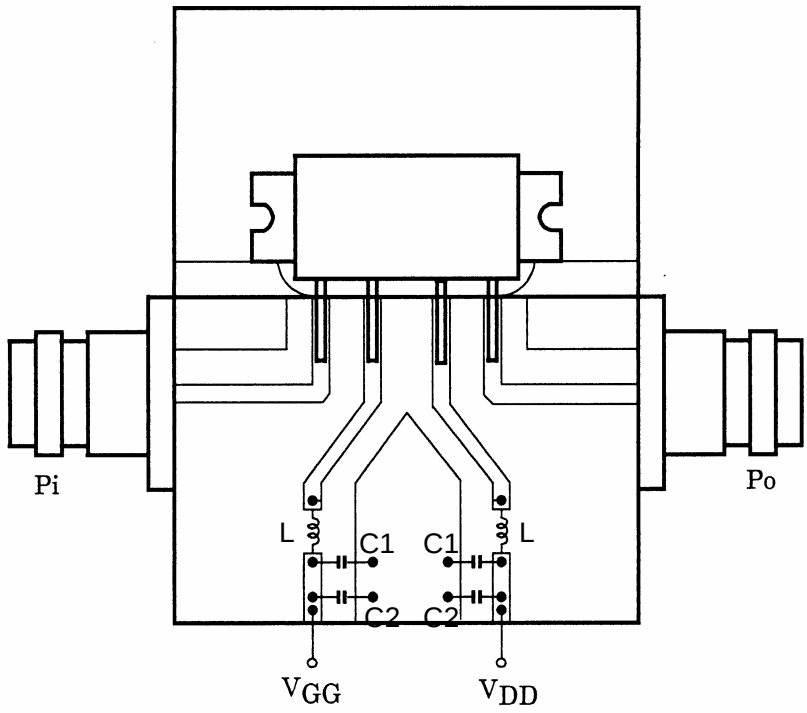
Caution

- This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.
- 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



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

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