TOSHIBA

MICROWAVE POWER GaAs MMIC S9751A

PRELIMINARY

Features

- High power
  - Po = 35 dBm at Pin = 4 dBm
- Super low distortion
  - P_{adj} = -67 dBc at Po = 34 dBm, 600 kHz offset
- High gain
  - Gp = 31 dB at Pin = 4 dBm
- Input/output port matched to 50Ω
- Hermetically sealed package

RF Performance Specifications (T_a = 25°C)

Characteristic	Symbol	Condition	Unit	Min.	Typ.	Max.
Output Power	Po	$V_{DD1} = V_{DD2} = V_{DD3}$ = 9V V_{GG} = -5V, f = 1.9 GHz Pin = 4 dBm	dBm	34	35	–
Power Gain	Gp		dB	30	31	–
Drain Current	I_{DD}*		A	–	1.5	1.9
Adjacent Channel Leakage Power	P_{adj}	$V_{DD1} = V_{DD2} = V_{DD3}$ = 9V V_{GG} = -5V, f = 1.9 GHz Po = 34 dBm π / 4-QPSK Modulation 600 kHz Offset	dBc	–	-67	-65

*$I_{DD} = I_{DD1} + I_{DD2} + I_{DD3}$

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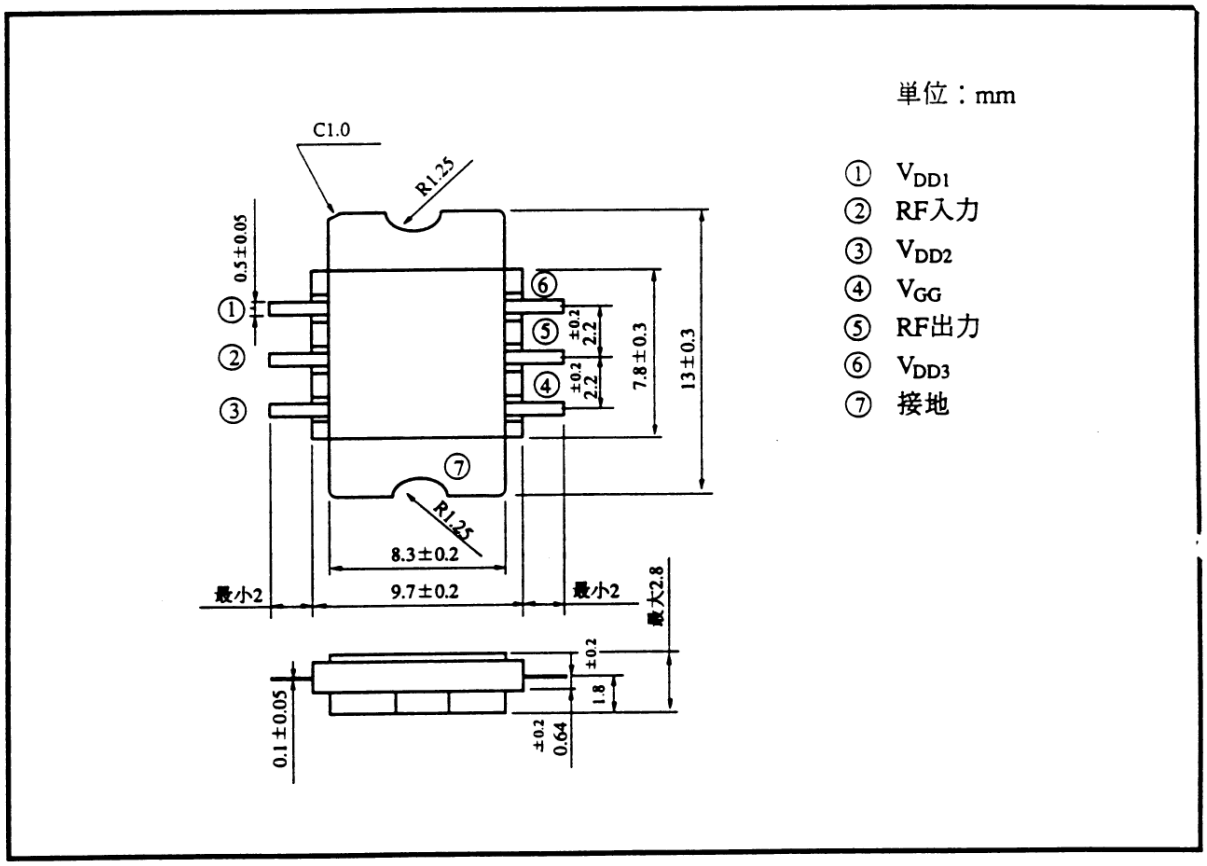
Absolute Maximum Ratings (T_a = 25°C)

Characteristic	Symbol	Unit	Rating
Drain Supply Voltage	V_{DD1}, V_{DD2}, V_{DD3}	V	15
Gate Supply Voltage	V_{GG}	V	-15
Input Power	Pin	dBm	13
Flange Temperature	Tf	˚C	-30 ~ +80
Storage Temperature	T_{stg}	˚C	-65 ~ +175

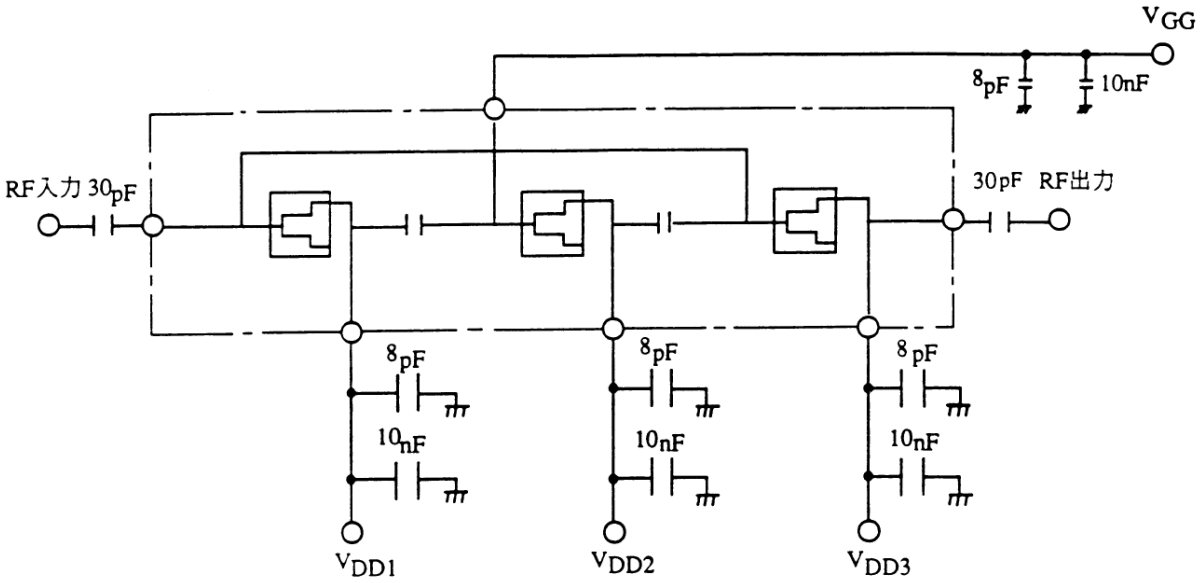
Package Outline (2-8N1B)



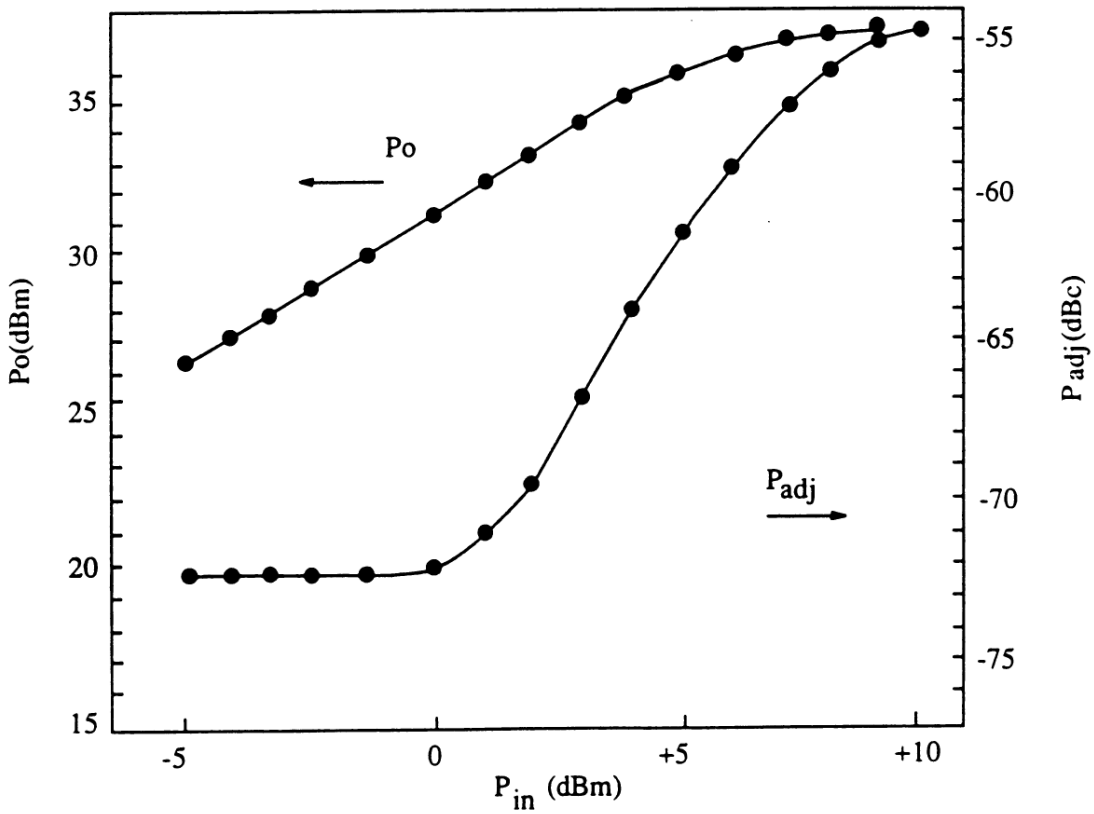
Handling Precautions for Packaged Type

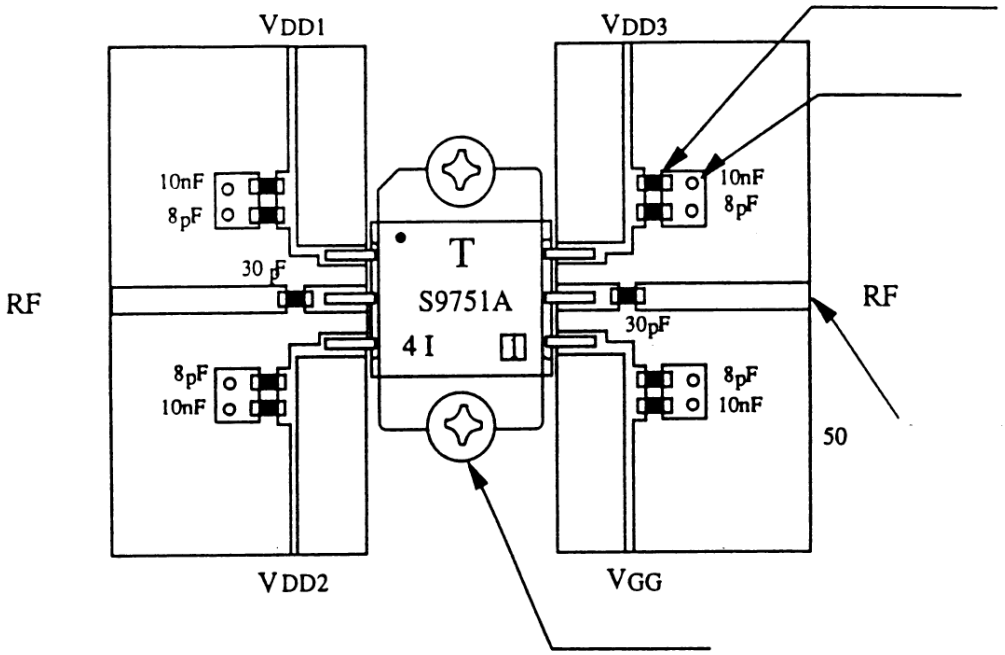
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

MMIC Schematic



RF Performance




VDD1
VDD3
10nF
8pF
30 pF
RF
T
S9751A
4 I
30pF
RF
8pF
10nF
8pF
10nF
50
VDD2
VGG