TOSHIBA

MICROWAVE POWER MMIC AMPLIFIER

TMD1013-1-431

MICROWAVE SEMICONDUCTOR
TECHNICAL DATA

FEATURES

- High Power P1dB=33dBm(TYP.)
- High Gain G1dB=25dB(TYP.)
- High Power Added Efficiency ηadd=14%(TYP.)
- Operable Frequency : f=10.0-12.0GHz.

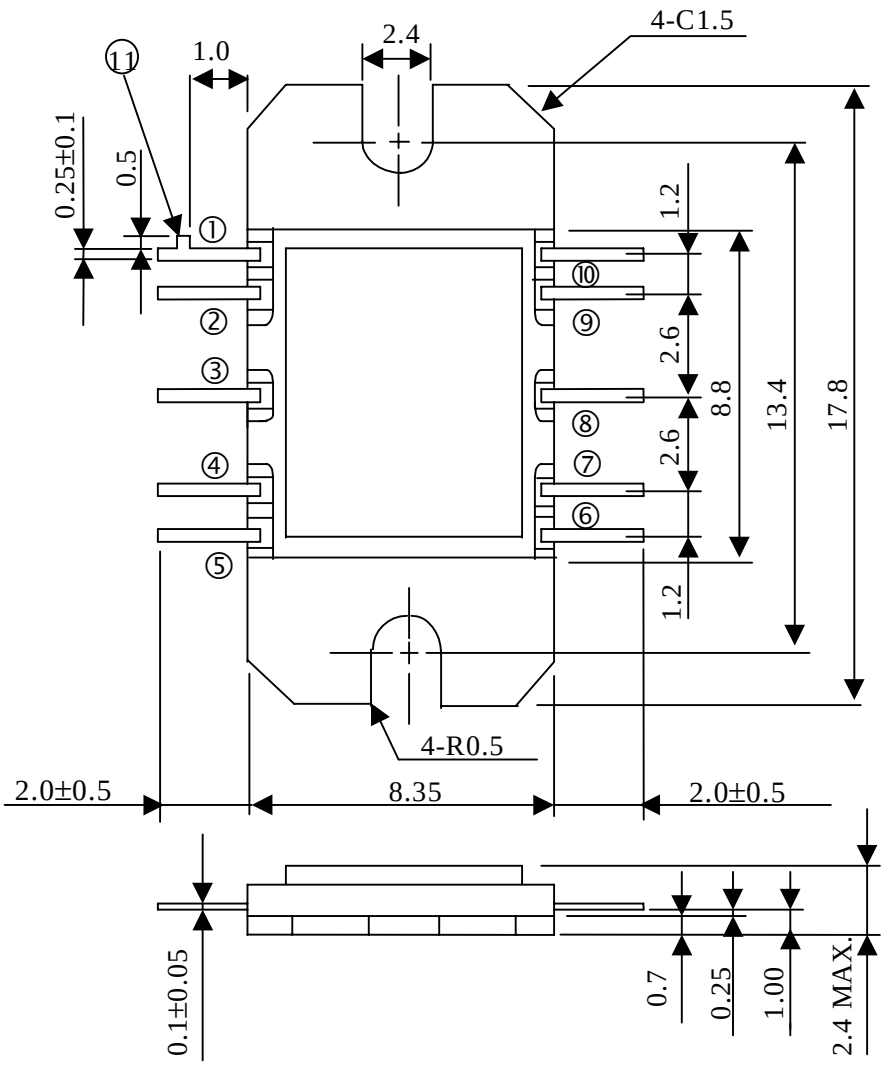
ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATINGS
DRAIN SUPPLY VOLTAGE	VDD	V	15
GATE SUPPLY VOLTAGE	VGG	V	-10
INPUT POWER	Pin	dB	7
FLANGE TEMPERATURE	Tf	°C	-30 to +80
STORAGE TEMPERATURE	Tstg	°C	-65 to +175

RF PERFORMANCE SPECIFICATIONS (Ta=25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Operating Frequency	f		GHz	10.0	—	12.0
Output Power at 1dB Gain Compression Point	P1dB	VDD=10V VGG= –5V	dBm	31	33	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	21	25	—
Gain Flatness	ΔG		dB	—	—	2.5
Drain Current	IDD		A	—	1.4	1.8
Power Added Efficiency	ηadd		%	—	14	—
Third Order Intermodulation Distortion	IM3	2 Tone @ Po=19dBm(SCL)	dBc	-42	-45	—
VSWRin (small signal)	VSWRin		—	—	2.0	3.0

Package Outline (2-9E1D)



Unit in mm

①②⑤⑨⑩ : No Connection (Grounded)
③ : RF Input
④ : VGG
⑥ : No Connection (Open)
⑦ : VDD
⑧ : RF Output
⑪ : Orientation Tab

Recommended Bias Configuration