

FEATURES■ **Suitable for Ku-band VSAT**■ **HIGH POWER**

P1dB=34.0dBm (TYP.)

■ **HIGH POWER ADDED EFFICIENCY** η_{add} =29% (TYP.)■ **HIGH GAIN**

G1dB=24.0dB (TYP.)

■ **BROADBAND OPERATION**

f=13.75-14.5GHz

ABSOLUTE MAXIMUM RATINGS (Ta= 25° C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain Supply Voltage	VDD	V	10
Gate Supply Voltage	VGG	V	-10
Input Power	Pin	dBm	20
Flange Temperature	Tf	°C	-40 ~ +90
Storage Temperature	Tstg	°C	-65 ~ +175

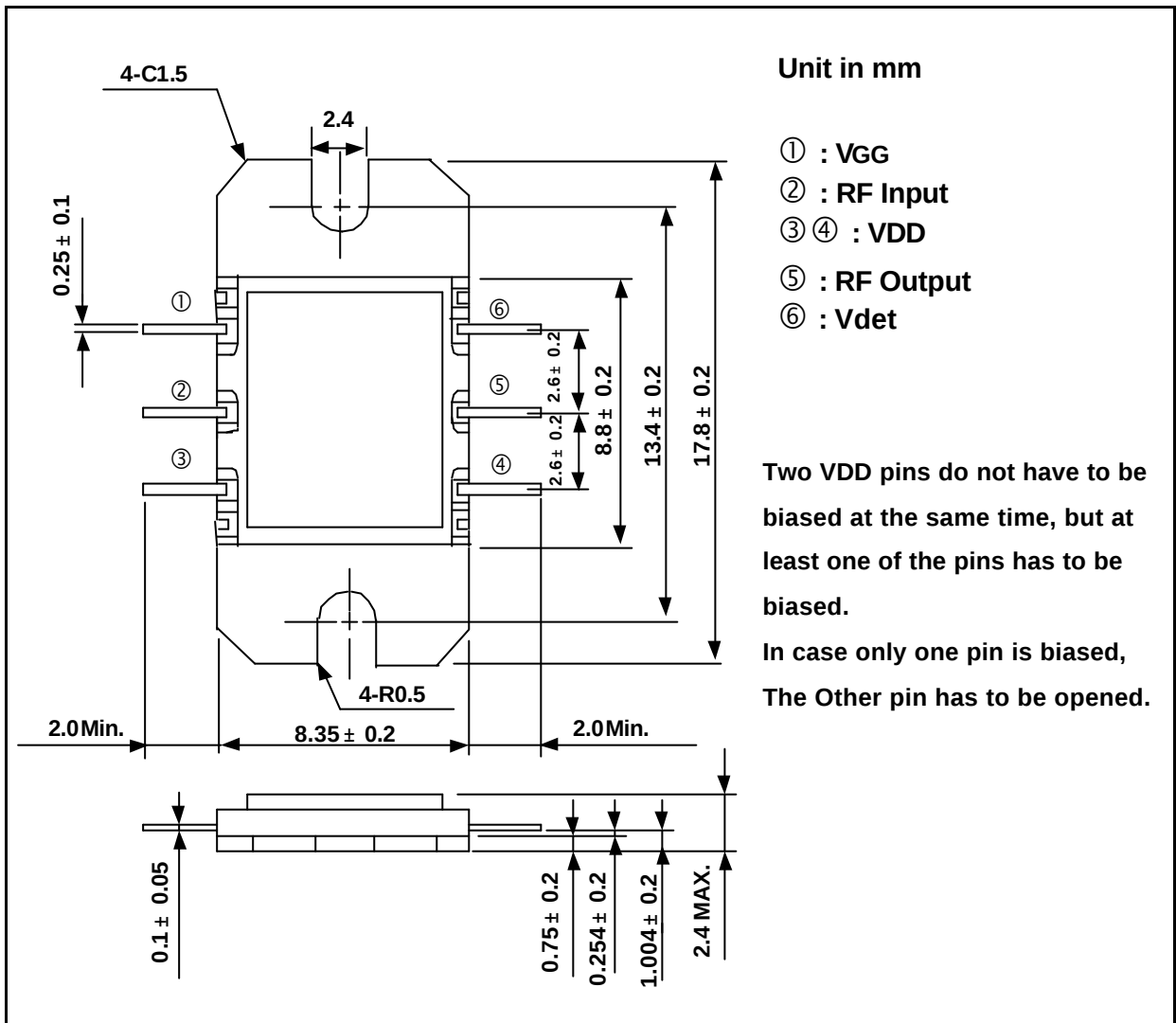
RF PERFORMANCE SPECIFICATIONS (Ta= 25° C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Operating Frequency	f		GHz	13.75	—	14.5
Output Power at 1dB Gain Compression Point	P1dB	VDD= 7V VGG= -5V	dBm	32.0	34.0	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	21.0	24.0	—
Gain Flatness	ΔG		dB	—	—	±1.0
Drain Current	IDD		A	—	1.4	1.8
Power Added Efficiency	η_{add}		%	—	29	—
3rd Order Intercept Point	IP3		dBm	—	40	—
VSWRin (small signal)	VSWRin		—	—	2.0	2.5
VSWRout (small signal)	VSWRout		—	—	2.0	3.0
Detector Output Voltage	Vdet	@ Po=33dBm	V	—	2.5	—

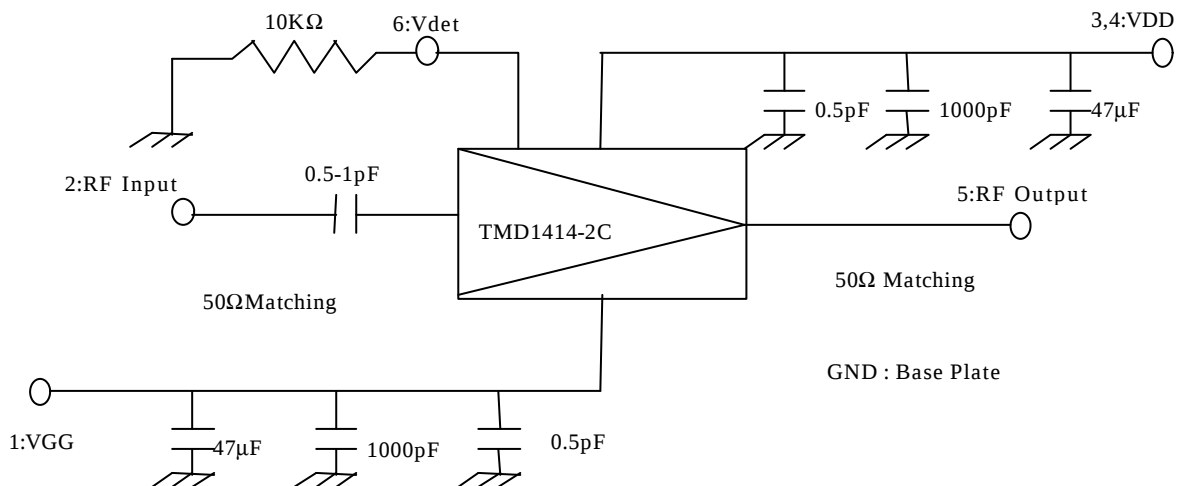
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PACKAGE OUTLINE (2-9E1C)



Recommended Bias Configuration



S-Parameters of TMD1414-2C

VDD= 7V, VGG= -5V

Freq. (GHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
13.5	0.24	-79	16.1	55	0.004	150	0.42	-91
13.6	0.22	-76	16.8	43	0.005	147	0.43	-96
13.7	0.20	-72	17.5	30	0.005	139	0.44	-100
13.8	0.18	-67	18.3	17	0.006	143	0.45	-106
13.9	0.17	-62	19.0	4	0.005	129	0.46	-113
14.0	0.16	-56	19.7	-11	0.006	135	0.46	-120
14.1	0.16	-51	20.3	-26	0.007	135	0.47	-129
14.2	0.15	-47	20.7	-41	0.006	130	0.47	-139
14.3	0.15	-41	20.8	-56	0.007	132	0.46	-150
14.4	0.14	-33	20.5	-72	0.008	119	0.44	-161
14.5	0.14	-23	19.8	-88	0.008	118	0.41	-173
14.6	0.15	-12	18.8	-103	0.008	115	0.38	175
14.7	0.17	-4	17.7	-117	0.009	111	0.34	164