

High Directivity Monolithic Amplifier

50Ω 0.5 to 2.5 GHz

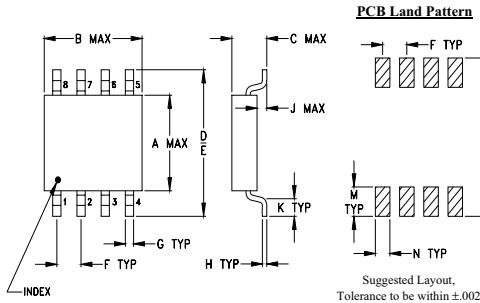
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 150°C
DC Voltage	+7V, -1.0V reverse
Power	1000mW
Input Power (no damage)	10 dBm

Pin Connections

RF IN	3
RF OUT	6
DC	1
GROUND	2,4,5,7,8

Outline Drawing

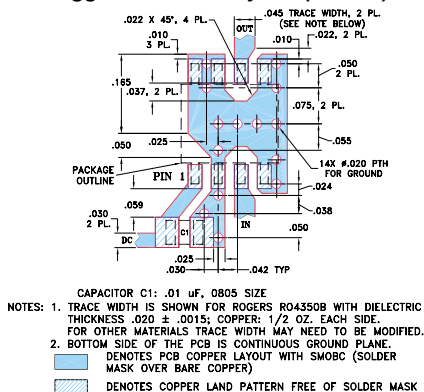


Outline Dimensions (inch)

A	B	C	D	E	F	G
.163	.210	.077	.250	.050	.017	
4.14	5.33	1.96	6.35	5.59	1.27	0.43

H	J	K	M	N	P	wt
.009	.025	.030	.050	.030	.270	grams
0.23	0.64	0.76	1.27	0.76	6.86	0.10

Demo Board MCL P/N: TB-01 Suggested PCB Layout (PL-077)



Features

- 3V & 5V operation
- no external biasing circuit required
- internal DC blocking at RF input and output
- high directivity, 20 dB typ.
- wide bandwidth, 0.5 to 2.5 GHz
- low noise figure, 5.5 dB typ.
- output power, up to +18.2 dBm typ.
- excellent repeatability
- low cost

Applications

- buffer amplifier
- cellular
- PCN

Electrical Specifications (T_{AMB}=25°C)

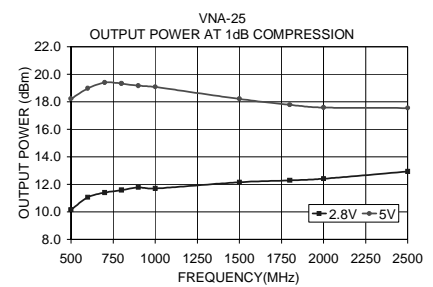
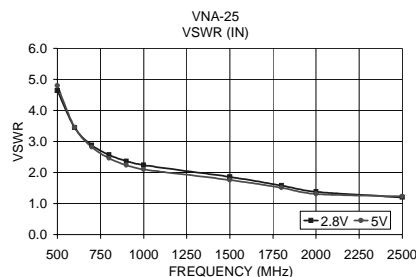
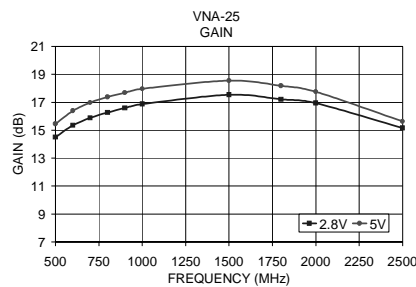
FREQ. (GHz)	DC VOLTS (V)	GAIN (dB) Typical						MAXIMUM POWER (dBm) Output 1 dB Comp. Typ.	DYNAMIC RANGE		VSWR* (:1) Typ.		DIRECTIVITY (dB) (isolation-gain) Typ.	DC OPERATING CURRENT at Pin 3 (mA)		THERMAL RESIS- TANCE θjc Typ. °C/W
		0.5	1.0	1.5	2.0	2.5	Min. at 2 GHz		NF (dB) Typ.	IP3 (dBm) Typ.	In	Out		Typ.	Typ.	
0.5-2.5	5.0 2.8	15.5 14.5	18.0 16.7	18.6 17.4	17.8 17.0	16.0 15.5	16.0 —	18.2 12.0	5.5 5.5	29 24	1.5 1.5	1.6 1.6	18-24 16-25	85 80	105 —	125

*VSWR above .75 GHz

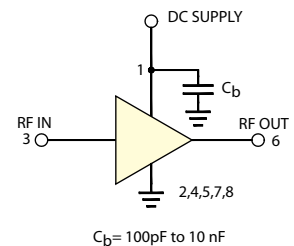
Thermal resistance is from junction to mounting surface of leads.

Typical Performance Data at 25°C

Frequency (MHz)	Gain (dB)		Pout (dBm) (@1dB COMP)		N.F. (dB)		VSWR IN		VSWR OUT	
	2.8V	5.0V	2.8V	5.0V	2.8V	5.0V	2.8V	5.0V	2.8V	5.0V
500.00	14.51	15.45	10.16	18.21	4.66	4.70	4.64	4.80	1.60	1.34
600.00	15.35	16.39	11.07	18.97	4.67	4.71	3.45	3.46	1.54	1.26
700.00	15.88	16.98	11.40	19.39	4.70	4.75	2.88	2.82	1.58	1.34
800.00	16.27	17.38	11.59	19.32	4.70	4.72	2.57	2.46	1.63	1.42
900.00	16.59	17.69	11.79	19.16	4.65	4.70	2.37	2.24	1.68	1.47
1000.00	16.87	17.97	11.70	19.07	4.73	4.73	2.24	2.10	1.71	1.50
1500.00	17.54	18.55	12.16	18.20	4.52	4.57	1.86	1.76	1.72	1.39
1800.00	17.21	18.18	12.29	17.78	4.63	4.70	1.58	1.51	1.63	1.19
2000.00	16.94	17.75	12.41	17.58	4.75	4.80	1.38	1.31	1.57	1.06
2500.00	15.16	15.63	12.93	17.54	5.02	5.38	1.20	1.23	1.51	1.29



biasing configuration



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