

Surface Mount Low Noise Amplifier

RAMP-33LN+

50Ω 50 to 3000 MHz

Features

- Wide Bandwidth, 50 to 3000 MHz
- Low Noise Figure, 1.1 dB typ.
- Output Power, up to 16.5 dBm typ.
- Shielded case
- Aqueous washable



CASE STYLE: CK605

PRICE: \$19.95 ea. QTY (1-24)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Applications

- Front-End Amplifier
- Cellular
- GPS
- Bluetooth

Electrical Specifications at T_{AMB} = 25°C

MODEL NO.	FREQUENCY (MHz)	NOISE FIGURE (dB)		GAIN, Typical (dB)					MAXIMUM POWER (dBm)			INTERCEPT POINT (dBm)	VSWR (:1) Typ.		DC VOLTS (V)	DC OPERATING CURRENT @ V+ (mA)		
		Typ.	Max.	over frequency, GHz					Output (1dB Compr.)				Output IP3 Typ.	In		Out	Typ.	Max.
				0.1	1.0	2.0	3.0	Min. at 2 GHz	Typ.	Min.	Input (no damage)							
RAMP-33LN+	50 - 3000	1.1	2.0	22.0	18.5	14.5	11.0	13.0	16.5	14.5	+13	30	2.0	1.4	5.0	70	80	

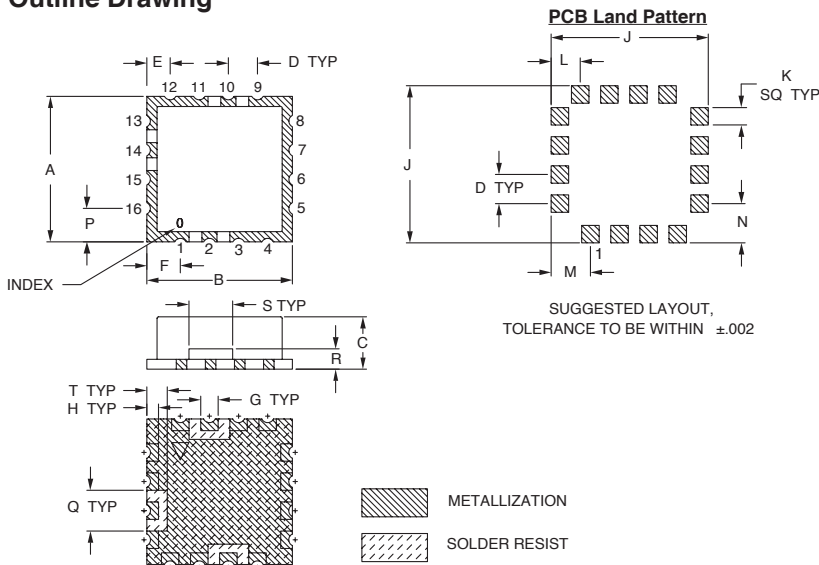
Pin Connections

V+	10
RF OUT	14
RF IN	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

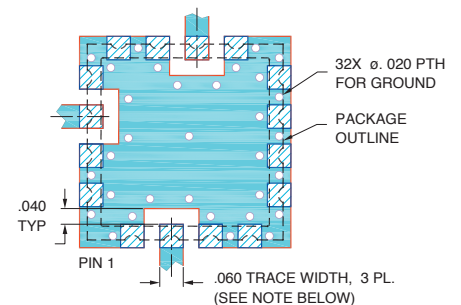
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
DC Voltage	5.5 V
Input Power (no damage)	+13 dBm
Power	0.44 W

Outline Drawing



Demo Board MCL P/N: TB-10 Suggested PCB Layout (PL-012)



NOTES:

1. TRACE WIDTH IS SHOWN FOR RF4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
 - DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



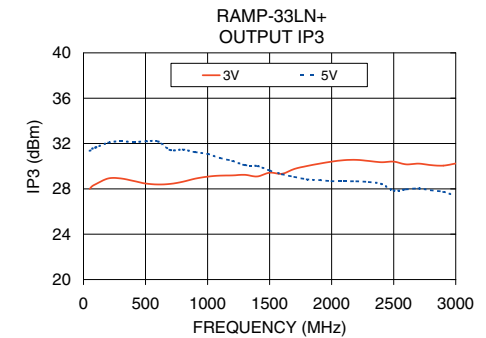
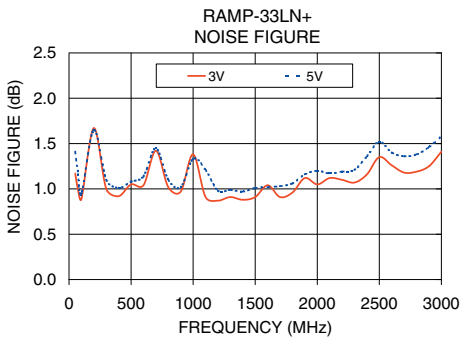
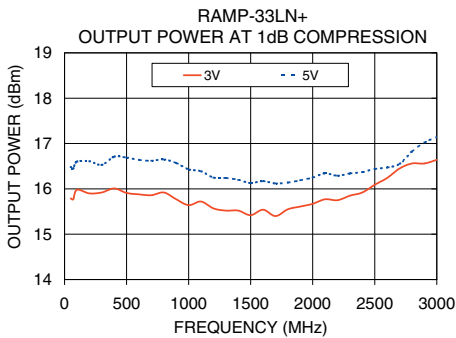
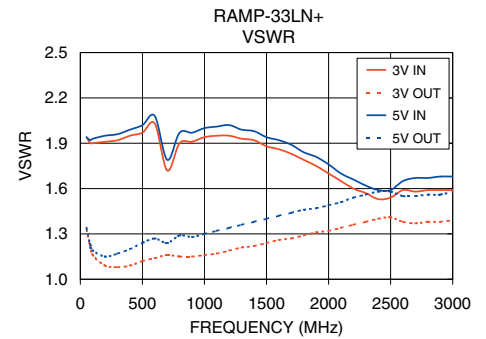
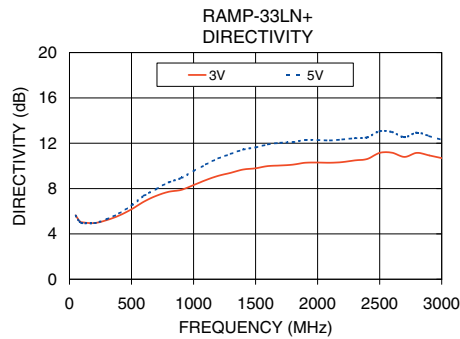
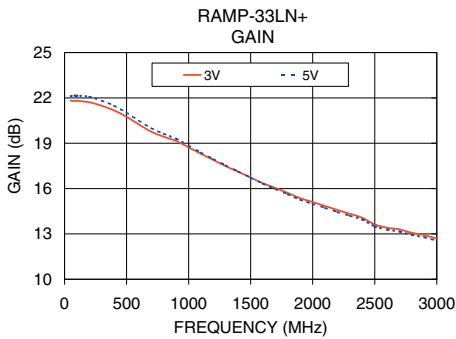
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IF/RF MICROWAVE COMPONENTS




REV. OR
M118418
EDR-9084/1AF1
RAMP-33LN+
RAV
081029
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FREQUENCY (MHz)	GAIN (dB)		DIRECTIVITY (dB)		VSWR IN (:1)		VSWR OUT (:1)		NOISE FIGURE (dB)		P. OUT at 1dB COMPR. (dBm)		OUTPUT IP3 (dBm)	
	3V	5V	3V	5V	3V	5V	3V	5V	3V	5V	3V	5V	3V	5V
50	21.81	22.12	5.64	5.60	1.94	1.94	1.33	1.34	1.17	1.41	15.79	16.48	28.00	31.36
100	21.81	22.16	5.03	4.95	1.90	1.93	1.16	1.19	0.89	0.95	15.98	16.60	28.42	31.66
200	21.71	22.07	4.96	4.95	1.91	1.95	1.09	1.15	1.67	1.65	15.90	16.61	28.92	32.07
200	21.71	22.07	4.96	4.95	1.91	1.95	1.09	1.15	1.67	1.65	15.90	16.61	28.92	32.07
300	21.48	21.82	5.22	5.30	1.92	1.96	1.08	1.17	1.00	1.10	15.92	16.53	28.92	32.20
400	21.17	21.48	5.62	5.81	1.95	1.99	1.09	1.20	0.92	1.01	16.01	16.71	28.71	32.13
500	20.75	21.03	6.17	6.50	1.97	2.02	1.12	1.24	1.05	1.08	15.91	16.69	28.47	32.19
600	20.24	20.49	6.85	7.37	2.03	2.08	1.14	1.27	1.04	1.14	15.88	16.64	28.39	32.19
700	19.76	20.00	7.36	7.96	1.72	1.79	1.16	1.24	1.42	1.45	15.86	16.62	28.44	31.43
800	19.43	19.62	7.72	8.55	1.90	1.97	1.15	1.29	1.02	1.10	15.92	16.65	28.63	31.47
900	19.15	19.30	7.88	8.93	1.91	1.97	1.15	1.28	0.97	1.02	15.77	16.57	28.90	31.24
1000	18.73	18.85	8.31	9.54	1.94	2.00	1.16	1.30	1.38	1.33	15.64	16.43	29.08	31.08
1500	16.73	16.73	9.79	11.63	1.88	1.94	1.24	1.40	0.91	1.01	15.42	16.13	29.43	29.63
2000	15.11	14.99	10.30	12.28	1.70	1.76	1.32	1.49	1.05	1.20	15.67	16.25	30.40	28.68
2500	13.63	13.50	11.15	13.06	1.54	1.59	1.41	1.58	1.35	1.52	16.09	16.44	30.40	27.87
3000	12.69	12.54	10.69	12.30	1.59	1.68	1.39	1.58	1.41	1.58	16.64	17.15	30.24	27.40



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