

High Directivity Monolithic Amplifier

MNA-5+ MNA-5

50Ω 500 to 2500 MHz



Features

- 2.8V & 5V operation
- micro-miniature size .120"X.120"
- internal DC blocking at RF input and output
- high directivity, 20 dB typ.
- low noise figure
- output power, up to +12.2 dBm typ.
- excellent repeatability
- low cost

Applications

- buffer amplifier
- cellular
- PCN
- communications satellite
- defense

CASE STYLE: DQ849

PRICE: \$1.60 ea. QTY. (30)

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

*The +Suffix identifies RoHS Compliance. See our web site
for RoHS Compliance methodologies and qualifications.*

Electrical Specifications ($T_{AMB}=25^{\circ}\text{C}$)

FREQ. (MHz)	DC VOLTS (V)	GAIN (dB) Typical						MAXIMUM POWER (dBm)		DYNAMIC RANGE			VSWR* (:1) Typ.		DIRECTIVITY (dB) (isolation-gain)	DC OPERATING CURRENT (mA)		THERMAL RESISTANCE
		over frequency, GHz								NF (dB) Typ.	IP3 (dBm) Typ.							
		f _L -f _u	0.5	1.0	1.5	2.0	2.5	Min. at 2 GHz	f _L				f _u	at 1 GHz	at 1 GHz	at 2 GHz	In	Out
500-2500	5.0	18.5	22.8	21.9	20.6	18.0	17.0	12.2	8.0	3.5	19.4	21.0	1.6	1.9	17	28	40	78
	2.8	18.0	21.4	20.5	19.4	17.4	—	10.1	6.5	3.5	18.0	20.0	1.6	1.9	17	26	—	

* VSWR above 0.75 GHz.

Thermal resistance is from junction to heat slug (mounting paddle)

Maximum Ratings

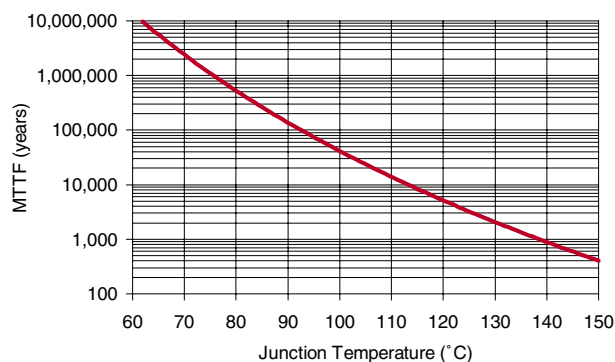
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
DC Voltage	7V at pin 7**
	10V at pins 2 & 5
Power	500mW
Input Power (no damage)	10 dBm

** Refer to pin connections for DC

Pin Connections

RF IN	2
RF OUT	5
DC	7, with 1000 pF bypass to ground; connect pin 8 via 33 ohms to pin 7 externally
GROUND	3,4 and paddle in center of bottom
OPTIONAL	1,6 No internal connection; recommended use: per PCB Layout (see next sheet)

MTTF vs. Junction Temp.



designers kit available

KIT NO.	NO. of Units in KIT	Description	Price \$ per KIT
K1-MNA	40	10 of each: MNA-2, MNA-3(+), MNA-5(+), MNA-6(+)	69.95
K2-MNA	60	10 of each: MNA-2, MNA-3(+), MNA-4(+), MNA-5(+), MNA-6(+), MNA-7(+)	99.95

MNA-5+ MNA-5

Typical Performance Data

Frequency (MHz)	Gain (dB)		Directivity (dB)		VSWR (:1) IN		VSWR (:1) OUT		Frequency (MHz)	Pout (dBm) (@1 dB COMPR)	
	2.8V	5.0V	2.8V	5.0V	2.8V	5.0V	2.8V	5.0V		2.8V	5.0V
500.00	18.32	18.78	19.04	17.69	4.20	4.32	2.51	2.63	500.00	10.22	12.39
600.00	20.24	20.91	18.20	16.14	2.87	3.03	1.79	1.83	600.00	10.28	12.00
750.00	22.05	23.11	21.80	18.44	1.76	1.85	1.37	1.15	750.00	8.78	10.52
1000.00	21.77	23.09	15.11	14.70	1.56	1.52	2.49	2.26	1000.00	8.18	9.54
1200.00	21.26	22.60	15.58	15.37	1.67	1.64	2.26	2.00	1200.00	7.94	9.25
1500.00	20.77	22.16	16.38	16.54	1.68	1.66	2.16	1.86	1500.00	7.27	8.47
1800.00	20.16	21.46	17.28	18.92	1.49	1.46	2.06	1.73	1800.00	6.71	7.83
2000.00	19.69	20.83	18.17	20.74	1.28	1.25	1.98	1.62	2000.00	6.55	7.82
2200.00	19.23	20.13	18.96	22.45	1.07	1.10	1.89	1.51	2200.00	6.56	7.85
2500.00	17.71	18.37	21.86	25.92	1.35	1.41	1.74	1.34	2500.00	6.76	7.93

