

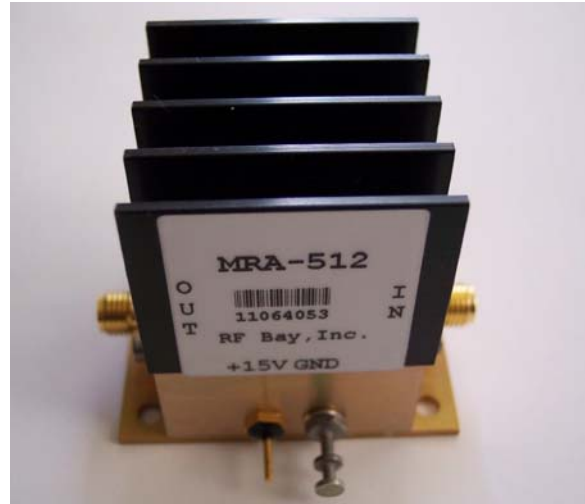
## MRA Series

## 10 – 1000MHz 500mW RF Amplifier

### Features

- Frequency Range: 10 - 1000MHz
- Gain: 18dB
- P<sub>1dB</sub>: +27dBm
- IP3: +39dBm
- Noise Figure: 6dB
- DC Power: 15V/210mA
- SMA Connector

### Picture



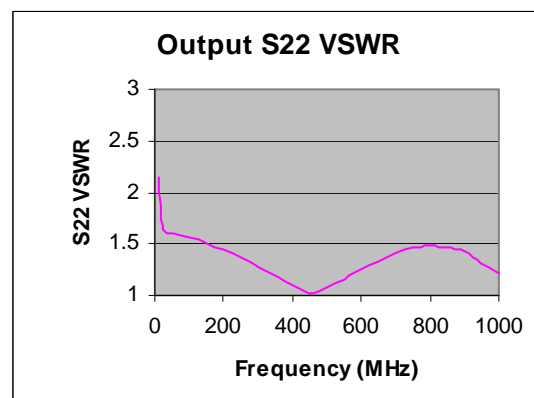
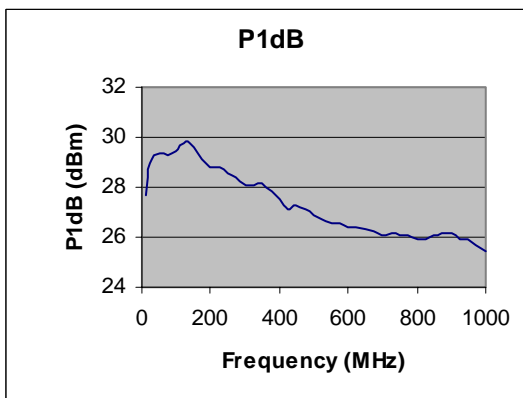
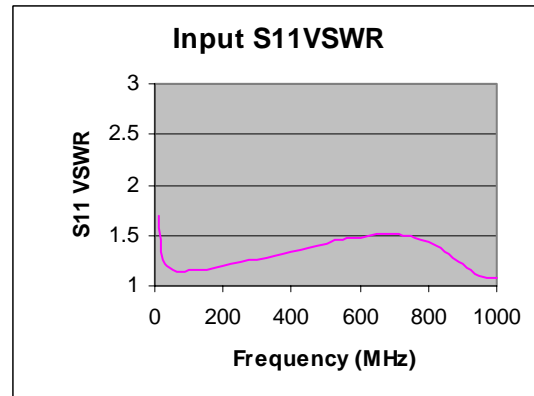
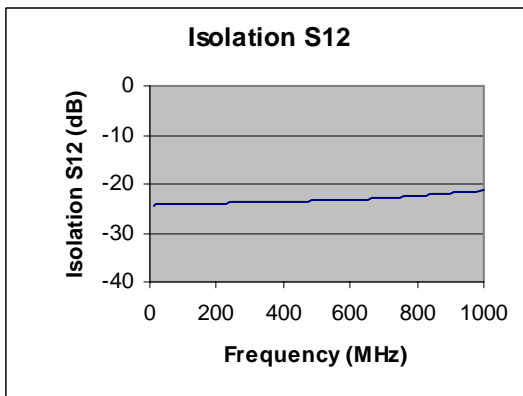
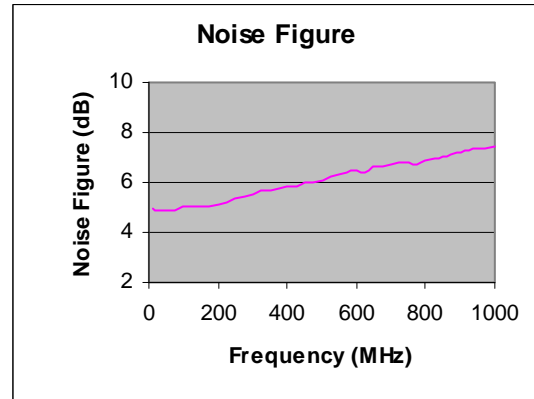
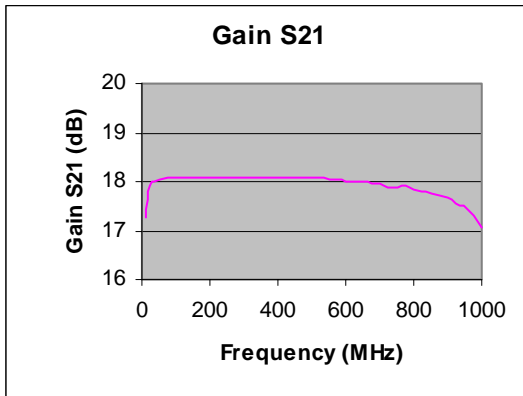
### Description

MRA-512 is a wideband 500mW high performance high reliability RF Amplifier operates with frequency range from 10MHz to 1000MHz and operating temperature from -54°C to +85°C.

### Electrical Specifications at 25°C, Z<sub>S</sub> = Z<sub>L</sub> = 50 Ohms, V<sub>cc</sub>=+15V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	10		1000
Small Signal Gain	dB		18.0	
Gain Flatness	dB		± 0.5	
P <sub>1dB</sub>	dBm		+27	
IP3	dBm		+39	
IP2	dBm		+45	
Second Order Harmonic IP	dBm		+50	
Reverse Isolation	dB		23	
Noise Figure at 500MHz	dB		6.0	
Input VSWR			1.4:1	
Output VSWR			1.4:1	
DC Power Supply	V		15	
Supply Current	mA		210	
Operating Temperature	C°	-54		+85

### Typical Performance @ +25 °C



**MRA Series****10 – 1000MHz 500mW RF Amplifier**

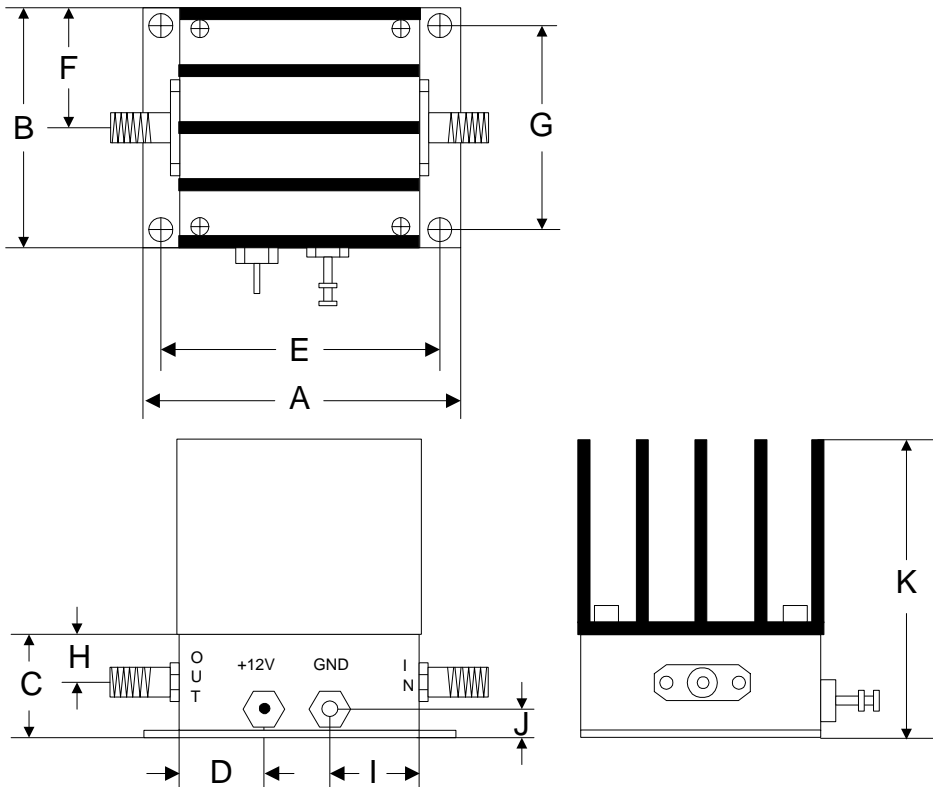
Test Data @ +25 °C

Frequency(MHz)	S21 (dB)	S12 (dB)	S11(VSWR)	S22(VSWR)
10	17.27	-24.60	1.685	2.150
25	17.91	-24.09	1.266	1.650
50	18.06	-24.06	1.166	1.600
75	18.07	-24.01	1.148	1.581
100	18.10	-23.98	1.150	1.557
125	18.09	-23.98	1.157	1.534
150	18.08	-23.97	1.168	1.505
175	18.08	-23.92	1.180	1.475
200	18.07	-23.91	1.197	1.442
225	18.07	-23.88	1.216	1.406
250	18.08	-23.84	1.233	1.365
275	18.09	-23.79	1.250	1.323
300	18.08	-23.74	1.265	1.279
325	18.08	-23.72	1.281	1.235
350	18.09	-23.68	1.300	1.189
375	18.09	-23.62	1.319	1.143
400	18.09	-23.59	1.339	1.098
425	18.09	-23.56	1.357	1.054
450	18.08	-23.52	1.376	1.015
475	18.09	-23.47	1.393	1.032
500	18.09	-23.44	1.413	1.075
525	18.08	-23.40	1.449	1.119
550	18.06	-23.35	1.465	1.165
575	18.03	-23.31	1.472	1.211
600	18.01	-23.22	1.479	1.254
625	18.01	-23.16	1.494	1.297
650	17.98	-23.10	1.506	1.338
675	17.96	-23.02	1.513	1.377
700	17.95	-22.92	1.510	1.410
725	17.87	-22.81	1.497	1.438
750	17.87	-22.71	1.486	1.458
775	17.91	-22.58	1.462	1.473
800	17.83	-22.45	1.433	1.479
825	17.79	-22.32	1.392	1.475
850	17.74	-22.17	1.337	1.459
900	17.69	-22.03	1.220	1.431
925	17.54	-21.73	1.157	1.361
950	17.45	-21.60	1.092	1.311
1000	17.07	-21.41	1.080	1.214

### Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power CW	+17dBm
RF Input Power Short Term (1 minute max)	+20dBm
Supply Voltage	+17V
Operating Temperature	-54°C to +85°C
Storage Temperature	-62°C to +125°C

### Outline



	A	B	C	D	E	F	G	H	I	J	K
Inch	1.250	1.250	0.665	0.450	1.000	0.625	1.000	0.350	0.500	0.187	1.665
mm	31.75	31.75	16.89	11.43	25.40	15.88	25.40	8.89	12.70	4.76	42.29