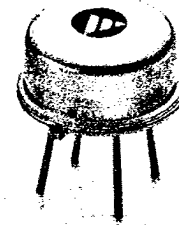


GPD-1003/-1063**Thin Film Cascadable
Amplifier
5-1000 MHz****FEATURES**

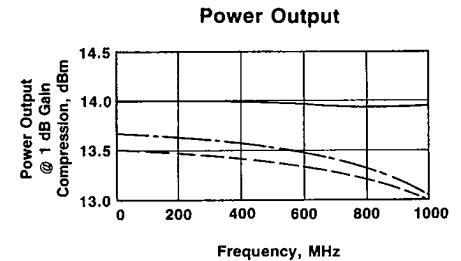
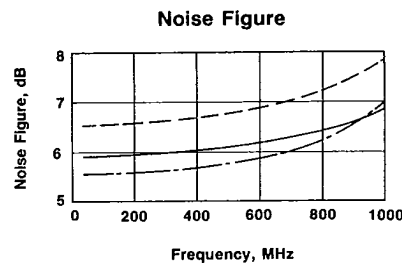
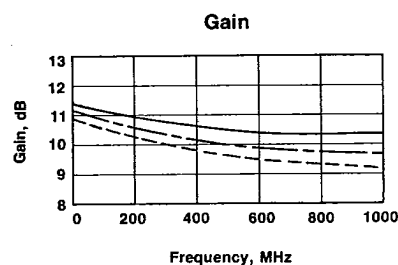
- +14.0 dBm Output Power
- Low Cost
- Small Size

**TO-12 Case**
(p. 403)**ELECTRICAL SPECIFICATIONS** (Measured in a 50-ohm system @ +15 VDC nominal)

Symbol	Characteristic	Typical $T_c = 25^\circ\text{C}$	Guaranteed Specifications		Unit
			$T_c = 0^\circ\text{--}50^\circ\text{C}$	$T_c = -55^\circ\text{--}+85^\circ\text{C}$	
BW	Frequency Range	5-1000	5-1000	5-1000	MHz
GP	Small Signal Gain	10.5	10.0 Min.	9.0 Min.	dB
—	Gain Flatness	± 1.0	—	—	dB
NF	Noise Figure	7.0	—	—	dB
—	Reverse Isolation	18.0	—	—	dB
$P_{1\text{ dB}}$	Power Output @ +1 dB Compression	+14.0	—	—	dBm
—	Input VSWR	1.50:1	—	2.0:1 Max.	—
—	Output VSWR	1.30:1	—	2.0:1 Max.	—
IP_3	Two Tone 3rd Order Intercept Point	+25.0	—	—	dBm
IP_2	Two Tone 2nd Order Intercept Point	+37.0	—	—	dBm
I_D	DC Current	55	—	—	mA

TYPICAL PERFORMANCE OVER TEMPERATURE (@ +15 VDC unless otherwise noted)

KEY: +25°C ———
+85°C - - - - -
-55°C ·····

**MAXIMUM RATINGS**

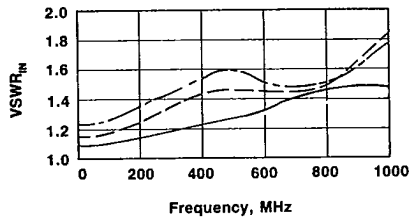
DC Voltage +17 Volts
Continuous RF Input Power +13 dBm
Operating Case Temperature -55°C to +125°C
Storage Temperature -62°C to +150°C
"R" Series Burn-In Temperature +125°C

THERMAL CHARACTERISTICS*

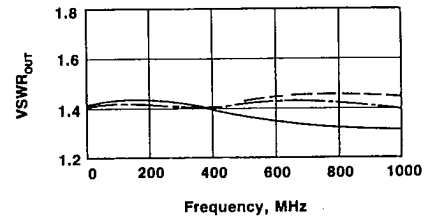
θ_{JC} 105°C/W
Active Transistor Power Dissipation 225 mW
Junction Temperature Above Case Temperature 23.7°C
MTBF 869,341 (1003)/2,101,101 (1063) Hrs.
*For further information, see High Reliability section.

WEIGHT: (typical) — 1.5 grams

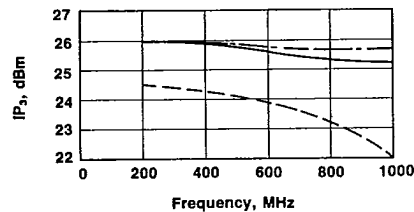
Input VSWR



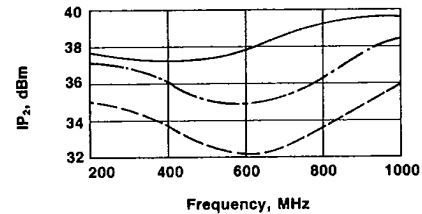
Output VSWR



Third-Order Intercept Point



Second-Order Intercept Point



AUTOMATIC NETWORK ANALYZER MEASUREMENTS (Typical production unit @ +25°C ambient)

NUMERICAL READINGS

BIAS = 15.00 VOLTS

FREQ MHz	VSWR IN	GAIN dB	PHASE DEG	PHASE DEV	GPDEL NSEC	VSWR OUT	ISOL dB
100.0	1.13	11.32	161.40	-.60	.00	1.46	22.29
200.0	1.17	11.18	141.34	-1.28	.54	1.43	22.12
300.0	1.23	11.14	122.54	-.68	.51	1.39	21.89
400.0	1.27	10.98	104.21	.36	.51	1.34	21.62
500.0	1.31	10.84	86.05	1.58	.53	1.29	21.29
600.0	1.36	10.72	66.56	1.47	.52	1.26	21.00
700.0	1.41	10.74	47.59	1.88	.57	1.26	21.02
800.0	1.53	10.67	26.70	.38	.56	1.22	19.34
900.0	1.50	10.75	6.68	-.23	.59	1.24	18.98
1000.0	1.54	10.88	-16.41	-3.94	.00	1.28	18.61

LINEARIZATION RANGE: 100.0 TO 1000.0

S-PARAMETERS, MAGNITUDES AND ANGLES

BIAS = 15.00 VOLTS

FREQ MHz	11 RATIO	11 ANGLE	21 dB	21 ANGLE	12 dB	12 ANGLE	22 RATIO	22 ANGLE
100.00	.053	-123.2	11.016	171.9	-21.498	11.5	.149	-9.5
200.00	.086	-119.4	11.120	167.0	-22.503	5.8	.125	-16.6
300.00	.082	-127.5	11.249	160.5	-20.865	25.2	.148	-22.0
400.00	.104	-130.2	10.924	154.6	-21.173	25.7	.139	-38.5
500.00	.113	-132.5	10.857	148.1	-21.142	33.8	.141	-49.3
600.00	.137	-146.1	10.755	141.8	-21.214	33.8	.136	-64.1
700.00	.144	-157.4	10.768	135.9	-20.690	39.1	.147	-77.9
800.00	.153	-169.4	10.778	127.8	-20.598	43.3	.156	-93.9
900.00	.186	169.2	10.973	120.2	-19.731	40.8	.157	-109.0
1000.00	.207	136.3	11.218	109.3	-18.887	36.1	.160	-128.3
1100.00	.293	88.5	11.458	95.4	-20.163	40.2	.165	-152.0
1200.00	.455	32.3	10.592	76.2	-19.339	31.5	.144	-175.6
1300.00	.646	-15.4	8.449	55.5	-19.985	24.1	.132	169.3
1400.00	.763	-50.0	5.442	43.9	-21.462	20.9	.133	154.4
1500.00	.820	-75.6	2.652	39.0	-22.083	25.1	.133	138.6
1600.00	.862	-94.2	.174	37.8	-22.710	30.6	.145	117.1
1700.00	.892	-109.5	-2.115	35.7	-24.469	22.8	.163	102.4