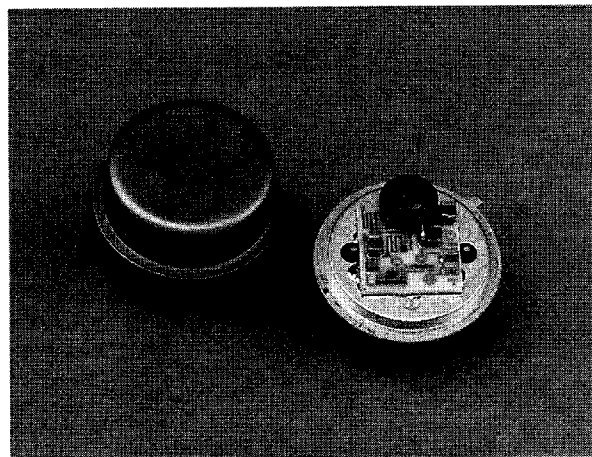


WJ-A28 / SMA28

10 to 1500 MHz TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH OUTPUT LEVEL: +15 dBm (TYP.)
- ◆ HIGH THIRD ORDER I.P.: +29 dBm (TYP.)
- ◆ WIDE POWER SUPPLY RANGE:
+5 TO +15 VOLTS



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	5-1600 MHz	10-1500 MHz	10-1500 MHz
Small Signal Gain (Min.)	11 dB	10 dB	9.5 dB
Gain Flatness (Max.)	±0.2 dB	±0.6 dB	±1.0 dB
Noise Figure (Max.)	6.0 dB	7.0 dB	7.5 dB
Power Output at 1 dB Compression (Min.)	+15 dBm	+14 dBm	+13.5 dBm
VSWR (Max.) Input/Output	< 1.5:1	2.0:1	2.0:1
DC Current (Max.) at 15 Volts	45 mA	50 mA	53 mA

*Measured in a 50-ohm system at +15 Vdc Nominal.

Notes:

1. WJ-CA28 is a standard WJ-A28 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

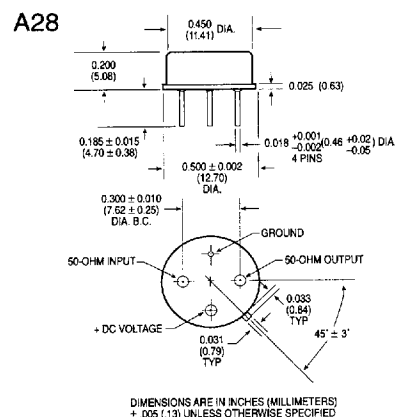
Second Order Harmonic Intercept Point.....	+49 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+44 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+29 dBm (Typ.)

Absolute Maximum Ratings

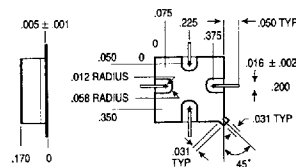
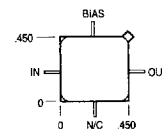
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term RF Input Power	50 Milliwatts (1 Minute Max.)
Maximum Peak Power	0.5 Watt (3 µsec Max.)
"S"Series Burn-in Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings



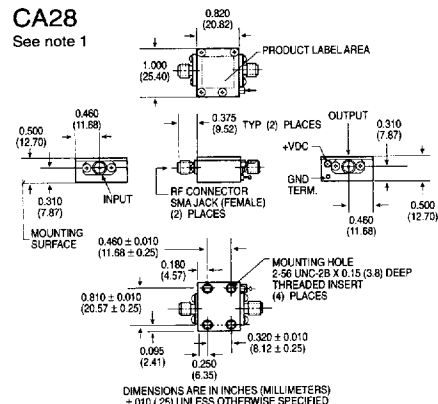
SMA28



DIMENSIONS ARE IN INCHES (MILLIMETERS)
+ 0.10 (25) UNLESS OTHERWISE SPECIFIED

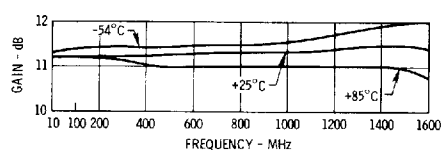
CA28

See note 1

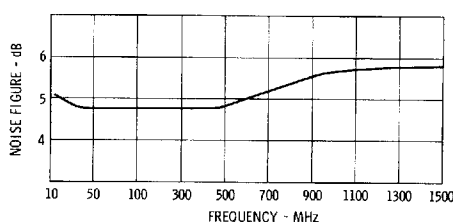


Typical Performance at 25°C

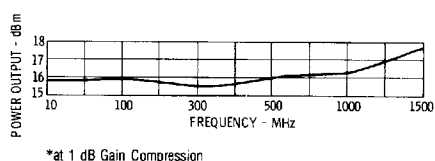
Gain



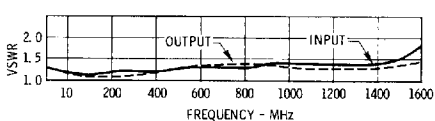
Noise Figure



Power Output*



VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.6	2.5	6.8
2.0	1.7	2.1	9.7
5.0	1.2	1.2	11.1
10.0	1.1	1.1	11.2
50.0	1.1	1.1	11.3
100.0	1.1	1.1	11.2
200.0	1.1	1.1	11.1
300.0	1.2	1.1	11.1
400.0	1.2	1.1	11.4
500.0	1.3	1.2	11.5
600.0	1.3	1.2	11.6
700.0	1.4	1.2	11.7
800.0	1.4	1.2	11.8
900.0	1.4	1.3	11.8
1000.0	1.4	1.3	11.9
1100.0	1.4	1.2	11.9
1200.0	1.3	1.2	12.0
1300.0	1.2	1.2	12.0
1400.0	1.2	1.3	11.9
1500.0	1.5	1.5	11.8
1600.0	2.0	1.7	11.1
1700.0	3.0	1.8	10.2

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.224	-5	2.185	-167	.096	14	.431	-135
2.0	.271	-46	3.057	-150	.121	31	.355	147
5.0	.103	-52	3.609	-171	.147	11	.108	108
10.0	.088	-40	3.647	-176	.150	5	.060	97
50.0	.045	-7	3.685	174	.153	-1	.026	46
100.0	.053	-6	3.647	167	.153	-5	.026	27
200.0	.062	-26	3.609	154	.154	-10	.036	4
300.0	.080	-41	3.597	141	.155	-15	.049	-25
400.0	.104	-58	3.695	129	.159	-22	.063	-60
500.0	.112	-80	3.738	115	.161	-28	.075	-86
600.0	.131	-95	3.809	101	.163	-34	.087	-105
700.0	.152	-106	3.842	86	.167	-41	.099	-126
800.0	.173	-126	3.883	72	.171	-47	.108	-147
900.0	.176	-145	3.899	58	.176	-54	.112	-171
1000.0	.180	-165	3.932	42	.180	-62	.113	162
1100.0	.159	175	3.943	27	.186	-70	.109	133
1200.0	.135	146	3.962	11	.189	-79	.098	94
1300.0	.094	109	3.982	-6	.195	-89	.109	44
1400.0	.076	11	3.945	-25	.201	-100	.138	-5
1500.0	.190	-48	3.870	-44	.205	-111	.192	-49
1600.0	.325	-83	3.603	-66	.205	-125	.248	-89
1700.0	.494	-113	3.248	-88	.198	-141	.290	-126

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{JC} 45°C/W
 Transistor Power Dissipation P_d 0.449 W
 Junction Temperature Rise Above Case T_{JC} ... 20°C