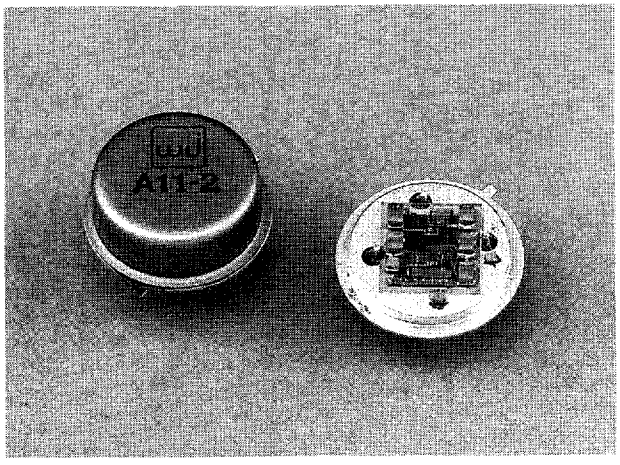
WJ-A11-2 / SMA11-2

5 to 1000 MHz
TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW NOISE: 2.5 dB (TYP.)
- ◆ HIGH GAIN: 16 dB (TYP.)



Specifications*

Characteristics	Typical	Guaranteed 0° to 50°C	Guaranteed -54° to +85°C
Frequency (Min.)	1-1100 MHz	5-1000 MHz	5-1000 MHz
Small Signal Gain (Min.)	16 dB	15 dB	14 dB
Gain Flatness (Max.)	±0.3 dB	±0.9 dB	±1.0 dB
Noise Figure (Max.)	2.5 dB	3.0 dB	3.5 dB
Power Output at 1 dB Compression (Min.)	-1.0 dB	-3.0 dB	-3.5 dB
VSWR (Max.) Input/Output	< 1.4:1	1.9:1	2.0:1
DC Current (Max.) at 15 Volts	9 mA	11 mA	12mA

*Measured in a 50-ohm system at +15 Vdc Nominal.
Notes:
1. WJ-CA11-2 is a standard WJ-A11-2 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.....+15 dBm (Typ.)
Second Order Two Tone Intercept Point.....+10 dBm (Typ.)
Third Order Two Tone Intercept Point.....+10 dBm (Typ.)

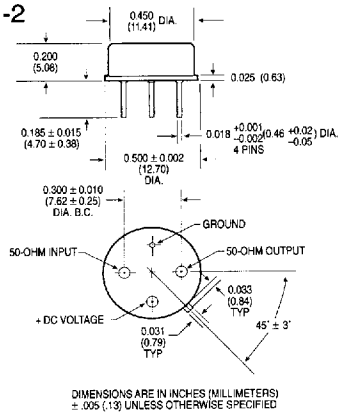
Absolute Maximum Ratings

Storage Temperature .....-62°C to +125°C
Maximum Case Temperature .....125°C
Maximum DC Voltage.....+20 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

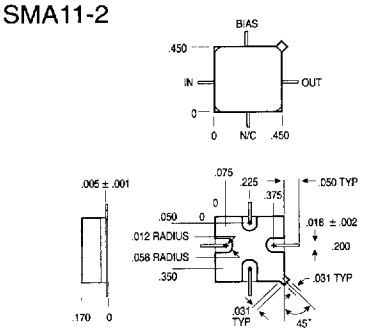
Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings

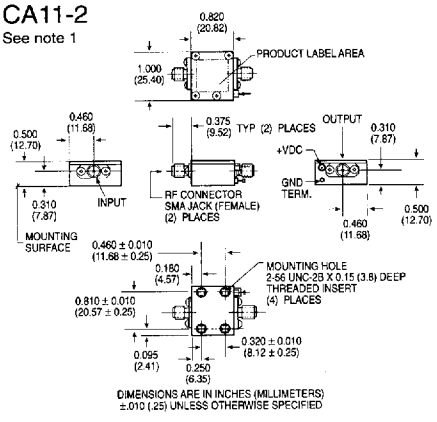
A11-2



SMA11-2

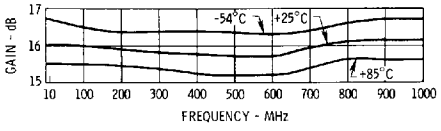


CA11-2
See note 1

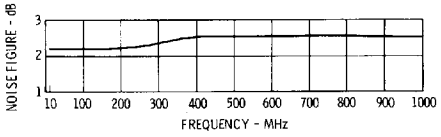


Typical Performance at 25°C

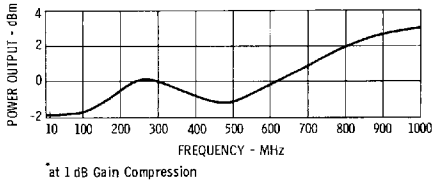
Gain



Noise Figure

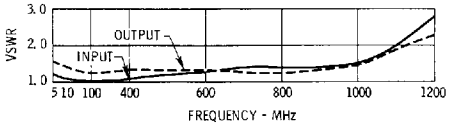


Power Output*



*at 1 dB Gain Compression

VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.2	1.3	17.1
2.0	1.2	1.3	17.1
5.0	1.2	1.3	17.1
10.0	1.2	1.3	17.0
50.0	1.2	1.3	16.9
100.0	1.2	1.3	16.8
200.0	1.1	1.3	16.7
300.0	1.0	1.3	16.5
400.0	1.1	1.3	16.6
500.0	1.2	1.3	16.7
600.0	1.3	1.3	16.6
700.0	1.3	1.2	16.6
800.0	1.4	1.1	16.6
900.0	1.5	1.2	16.7
1000.0	1.6	1.6	16.4
1100.0	2.3	2.2	15.2

Linear S-Parameters

Frequency	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.107	–175	7.183	–179	.088	3	.131	–177
2.0	.107	–176	7.186	–179	.088	3	.131	–179
5.0	.107	177	7.136	178	.088	1	.128	174
10.0	.097	168	7.070	171	.088	–2	.125	158
50.0	.092	148	7.027	162	.089	–5	.124	137
100.0	.082	133	6.898	150	.089	–9	.125	115
200.0	.056	112	6.802	135	.090	–15	.127	83
300.0	.016	29	6.702	114	.089	–23	.129	44
400.0	.047	–85	6.796	93	.089	–32	.123	9
500.0	.088	–122	6.806	70	.087	–41	.118	–20
600.0	.116	–148	6.749	46	.084	–50	.113	–46
700.0	.144	–177	6.745	23	.082	–58	.091	–67
800.0	.165	143	6.792	–3	.081	–67	.051	–58
900.0	.188	89	6.833	–30	.084	–77	.094	–6
1000.0	.239	17	6.634	–63	.085	–91	.226	–22
1100.0	.388	–55	5.786	–100	.086	–110	.377	–56

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} ..... 45°C/W
Transistor Power Dissipation P_d ..... 0.057 W
Junction Temperature Rise Above Case T_{jc} ... 3°C