

WJ-A17 / SMA17

10 to 1000 MHz TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH OUTPUT POWER: +15.3 dB (TYP.)
- ◆ HIGH THIRD ORDER I.P. +27 dBm (TYP.)
- ◆ LOW VSWR: < 1.3:1 (TYP.)
- ◆ WIDE POWER SUPPLY RANGE:
+5 TO +15 VOLTS

Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	2-1100 MHz	10-1000 MHz	10-1000 MHz
Small Signal Gain (Min.)	12 dB	10.5 dB	10 dB
Gain Flatness (Max.)	±0.2 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	6.0 dB	7.5 dB	8.0 dB
Power Output at 1 dB Compression (Min.)	+15.3 dBm	+14 dBm	+13.5 dBm
VSWR (Max.) Input/Output	< 1.3:1	1.8:1	2.0:1
DC Current (Max.) at 15 Volts	44 mA	47 mA	49 mA

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

Notes:

1. WJ-CA17 is a standard WJ-A17 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

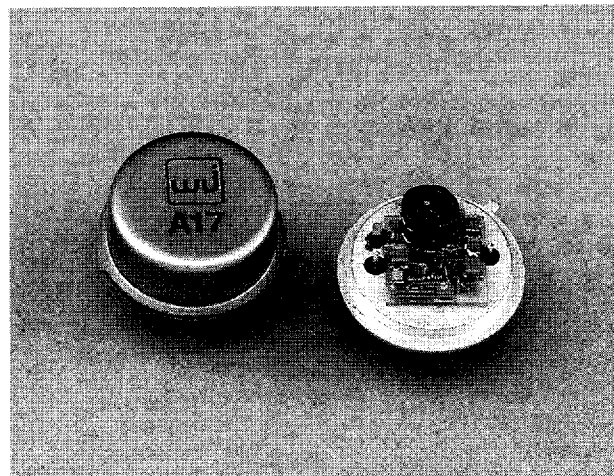
Typical Intermodulation Performance at 25°C

Second Order Harmonic Intercept Point.....+48 dBm (Typ.)
 Second Order Two-Tone Intercept Point+49 dBm (Typ.)
 Third Order Two-Tone Intercept Point+27 dBm (Typ.)

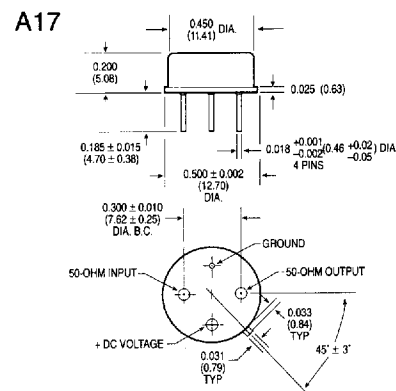
Absolute Maximum Ratings

Storage Temperature-62°C to +125°C
 Maximum Case Temperature125°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 Power0.5 Watt (3 µsec Max.)
 "S" Series Burn-In Temperature (Case)125°C

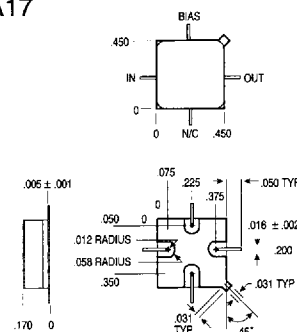
Weight approximately 2.0 grams (0.07 oz.)



Outline Drawings



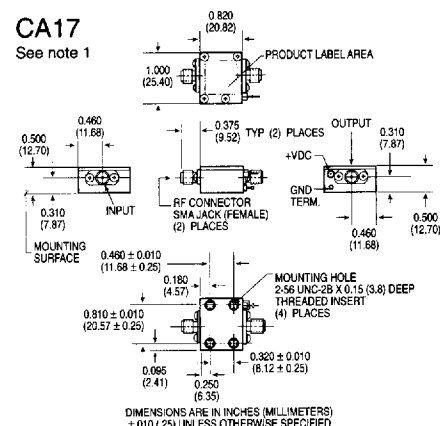
SMA17



DIMENSIONS ARE IN INCHES (MILLIMETERS)
±0.010 (±0.25) UNLESS OTHERWISE SPECIFIED

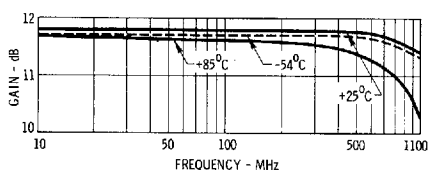
CA17

See note 1

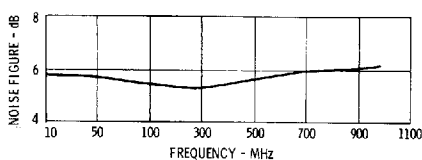


Typical Performance at 25°C

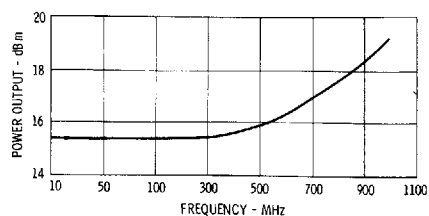
Gain



Noise Figure

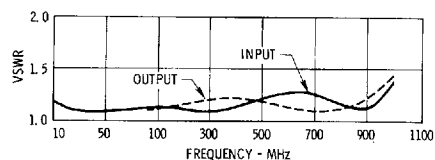


Power Output*



*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	1.1	1.2	12.8
2.0	1.1	1.2	12.8
5.0	1.1	1.2	12.9
10.0	1.1	1.1	12.9
50.0	1.1	1.1	12.8
100.0	1.0	1.1	12.7
200.0	1.0	1.1	12.7
300.0	1.0	1.1	12.6
400.0	1.1	1.1	12.7
500.0	1.2	1.1	12.9
600.0	1.2	1.1	12.9
700.0	1.2	1.1	12.9
800.0	1.2	1.1	12.9
900.0	1.2	1.2	12.9
1000.0	1.1	1.3	13.0
1100.0	1.2	1.4	13.0

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.067	-112	4.374	-175	.132	7	.101	146
2.0	.059	-117	4.372	-175	.133	6	.097	147
5.0	.043	-136	4.397	-180	.133	3	.078	150
10.0	.036	-167	4.406	-174	.135	-1	.063	150
50.0	.027	148	4.373	166	.134	-3	.058	140
100.0	.016	126	4.314	157	.135	-7	.057	126
200.0	.005	86	4.306	145	.136	-10	.052	99
300.0	.022	-48	4.258	129	.139	-17	.044	59
400.0	.051	-83	4.338	112	.143	-23	.031	8
500.0	.073	-118	4.392	95	.146	-31	.028	-44
600.0	.090	-136	4.409	76	.148	-39	.038	-86
700.0	.100	-159	4.405	58	.151	-47	.046	-127
800.0	.111	177	4.423	39	.154	-57	.056	-174
900.0	.104	140	4.437	20	.159	-67	.075	134
1000.0	.069	93	4.463	-1	.161	-79	.117	86
1100.0	.086	-18	4.468	-24	.164	-94	.183	42

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} 45°C/W
 Transistor Power Dissipation P_d 0.384 W
 Junction Temperature Rise Above Case T_{jc} ... 17°C