

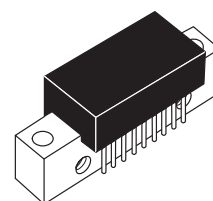
The RF Line VHF/UHF CATV Amplifier

... designed for broadband applications requiring low-distortion and high output capability. Specifically intended for CATV/MATV market requirements. These amplifiers feature ion-implanted arsenic emitter transistors and an all gold metal system.

- Specified Characteristics at $T_C = 25^\circ\text{C}$; $V_{CC} = 15\text{ V}$
 - Frequency Range — 40 to 860 MHz
 - Power Gain — 17 dB Typ @ $f = 40\text{ MHz}$
 - Noise Figure — 7.0 dB Typ @ $f = 500\text{ MHz}$
 - 123 dB μV DIN45004B @ 860 MHz
- All Gold Metallization for Improved Reliability
- Superior Gain, Return Loss and DC Current Stability with Temperature

CA912

17 dB
40–860 MHz
VHF/UHF
CATV/MATV
AMPLIFIER



CASE 714P-03, STYLES 2, 3

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	18	V
RF Input Power Per Tone	P_{in}	+17	dBm
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$
Operating Case Temperature Range	T_C	-20 to +100	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$, $V_{CC} = 15\text{ V}$, 75 Ohm System)

Characteristic	Symbol	Min	Typ	Max	Unit
Supply Current	I_{DC}	640	700	760	mA
Power Gain ($f = 40\text{ MHz}$)	PG	16.5	17	17.5	dB
Bandwidth	BW	40	—	860	MHz
Slope (40–860 MHz)	S	0.2	0.8	1.5	dB
Gain Flatness	FL	—	—	1.0	dB
Input/Output Return Loss $f = 40 - 100\text{ MHz}$ $f = 100 - 800\text{ MHz}$ $f = 800 - 860\text{ MHz}$	IRL/ORL	20 15 10	— 17 12	— — —	dB
Second Order Intermodulation Distortion ($V_o = +50\text{ dBmV/ch.}$)	IMD_2	—	—	-67	dB
DIN45004B (See Figure 1) $f = 40 - 400\text{ MHz}$ $f = 400 - 860\text{ MHz}$	DIN	124 123	— —	— —	dB μV
Noise Figure $f = 500\text{ MHz}$ $f = 860\text{ MHz}$	NF	— —	7.0 8.0	8.5 9.5	dB

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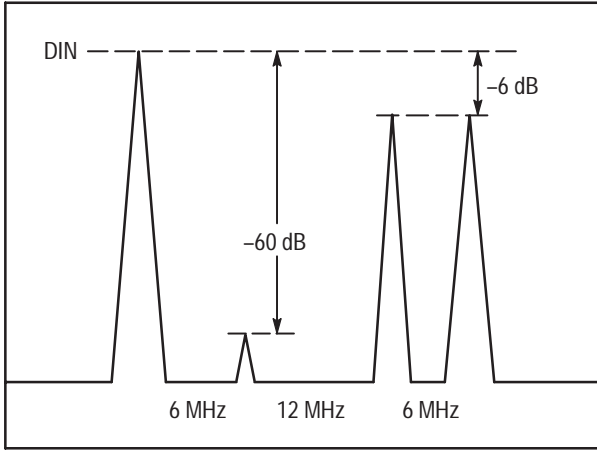
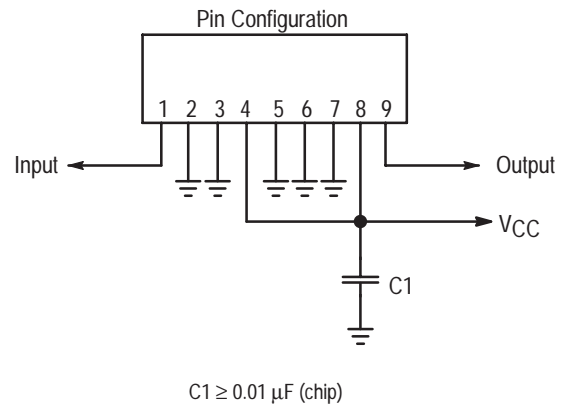
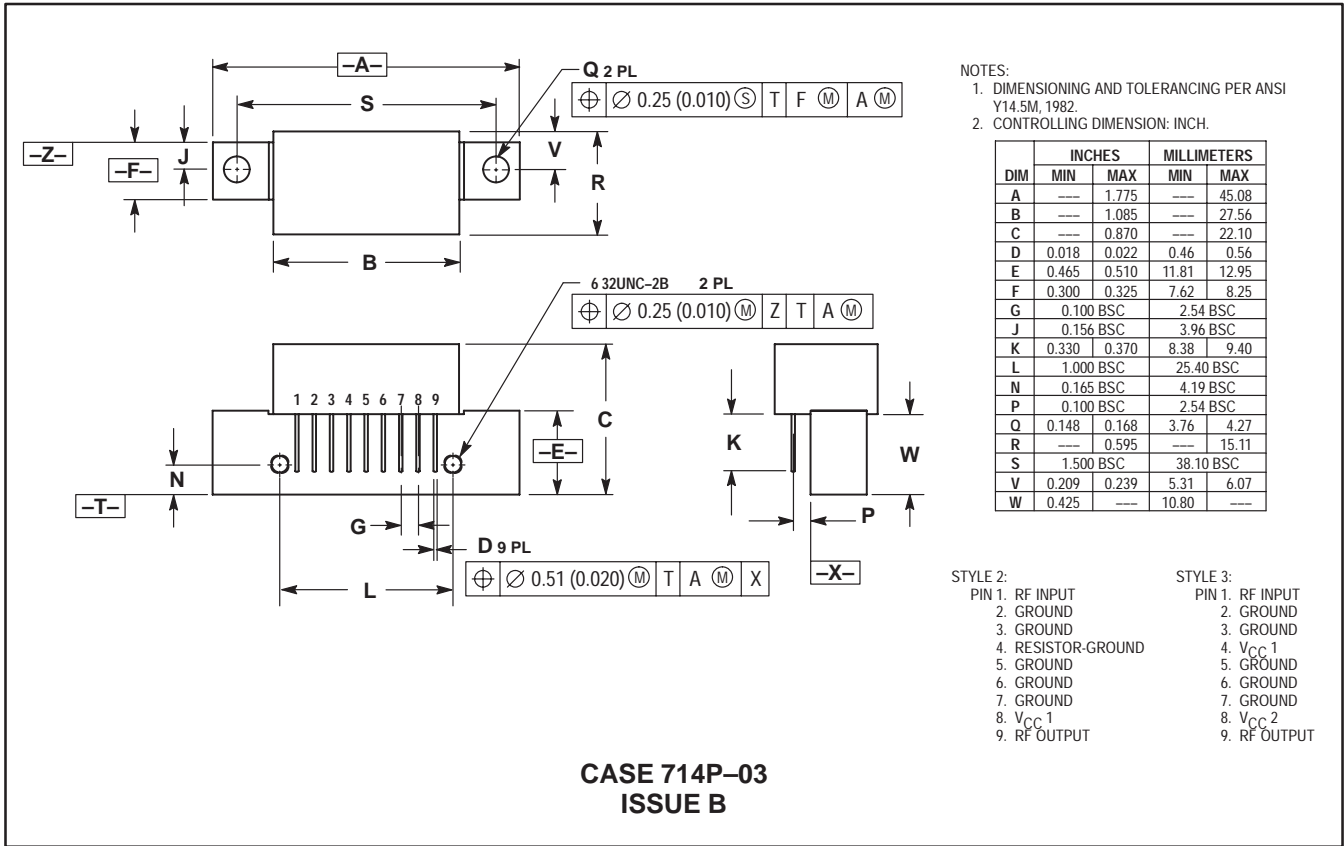


Figure 1. DIN45004B Test



**Figure 2. External Connections
Case 714P-03, Style 3**

PACKAGE DIMENSIONS



NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	---	1.775	---	45.08
B	---	1.085	---	27.56
C	---	0.870	---	22.10
D	0.018	0.022	0.46	0.56
E	0.465	0.510	11.81	12.95
F	0.300	0.325	7.62	8.25
G	0.100 BSC		2.54 BSC	
J	0.156 BSC		3.96 BSC	
K	0.330	0.370	8.38	9.40
L	1.000 BSC		25.40 BSC	
N	0.165 BSC		4.19 BSC	
P	0.100 BSC		2.54 BSC	
Q	0.148	0.168	3.76	4.27
R	---	0.595	---	15.11
S	---	1.500 BSC	---	38.10 BSC
V	0.209	0.239	5.31	6.07
W	0.425	---	10.80	---

STYLE 2:
 PIN 1. RF INPUT
 2. GROUND
 3. GROUND
 4. RESISTOR-GROUND
 5. GROUND
 6. GROUND
 7. GROUND
 8. V_{CC}1
 9. RF OUTPUT

STYLE 3:
 PIN 1. RF INPUT
 2. GROUND
 3. GROUND
 4. V_{CC}1
 5. GROUND
 6. GROUND
 7. GROUND
 8. V_{CC}2
 9. RF OUTPUT

CASE 714P-03
 ISSUE B


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