

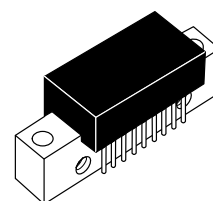
The RF Line VHF/UHF CATV Amplifier

... 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

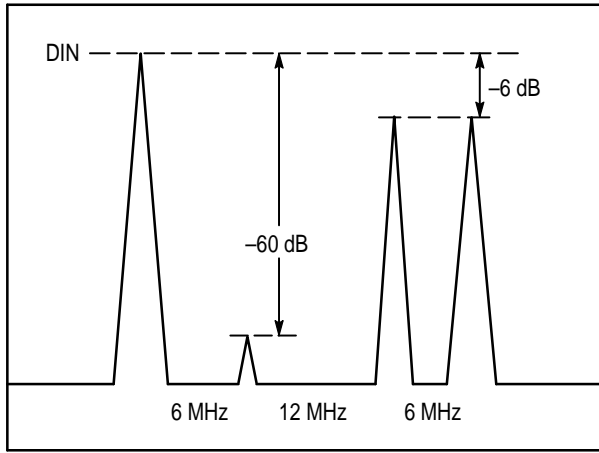


Figure 1. DIN45004B Test

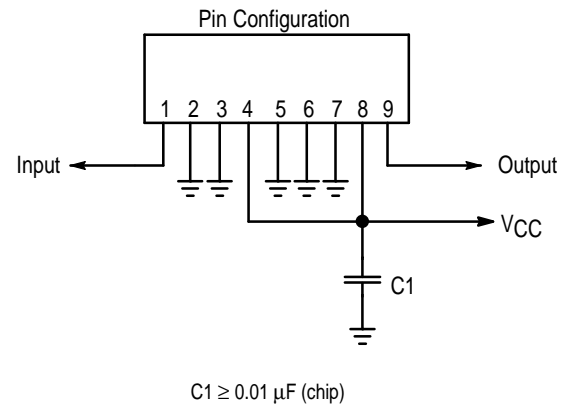
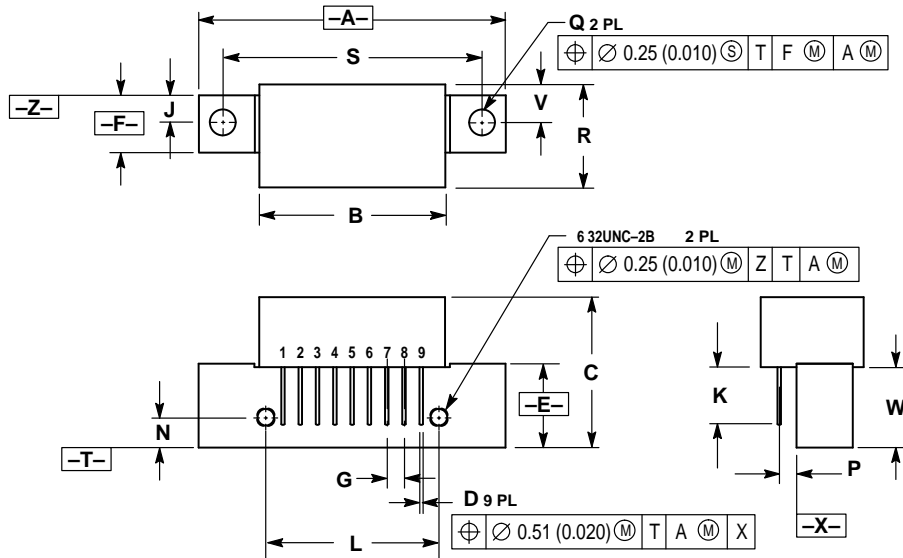


Figure 2. External Connections
Case 714P-03, Style 3

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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