Product Is Not Recommended for New Design.
The next generation of higher performance products are in development. Visit our online Selector Guides (http://mot–sps.com/rf/sg/sg.html) for scheduled introduction dates.

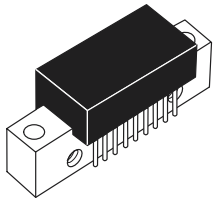
CA901A

The RF Line
VHF/UHF CATV Amplifiers

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

- Specified Characteristics at V_{CC} = 24 V, T_C = 25°C:
  Frequency Range — 40 to 860 MHz
  Power Gain — 17 dB Typ @ f = 40 MHz
  Noise Figure — 6.5 dB Typ @ f = 500 MHz
  120 dBμV DIN45004B @ 860 MHz
- All Gold Metallization for Improved Reliability
- Superior Gain, Return Loss and DC Current Stability with Temperature

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



CASE 714P–03, STYLE 2
(CA)

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+14	dBm
Supply Voltage	V_{CC}	26	Vdc
Operating Case Temperature Range	T_C	–20 to +100	°C
Storage Temperature Range	T_{stg}	–40 to +100	°C

ELECTRICAL CHARACTERISTICS (T_C = 25°C, V_{CC} = 24 V, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	860	MHz
Power Gain (f = 40 MHz)		P_G	16.5	17	17.5	dB
Slope (40–860 MHz)		S	0.2	0.8	1.5	dB
Gain Flatness		—	—	—	0.6	dB
Input/Output Return Loss f = 100–800 MHz f = 800–860 MHz	f = 40–100 MHz	IRL/ORL	20 15 10/15	— 17 12/18	— — —	dB
Second Order Intermodulation Distortion (V_{out} = +50 dBmV per ch.)	CA901 CA901A	IMD_2	— —	— —	–60 –64	dB
DIN45004B (See Figure 1) f = 400–860 MHz	f = 40–400 MHz	DIN	121 120	— —	— —	dBμV
Noise Figure f = 860 MHz	f = 500 MHz	NF	— —	6.5 7.0	7.5 8.0	dB
Supply Current		I_{DC}	—	235	255	mA

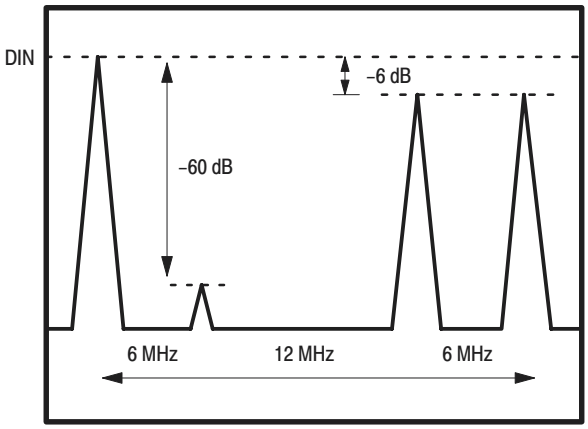


Figure 1. DIN45004B Test

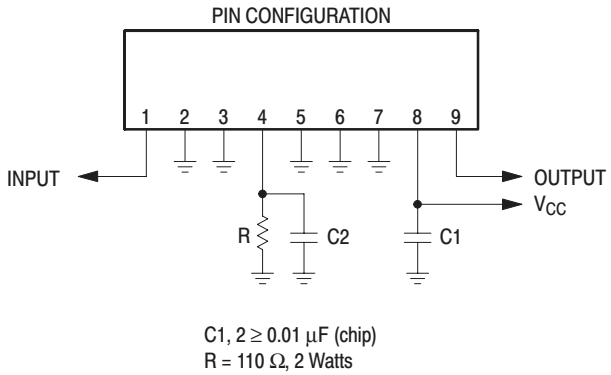
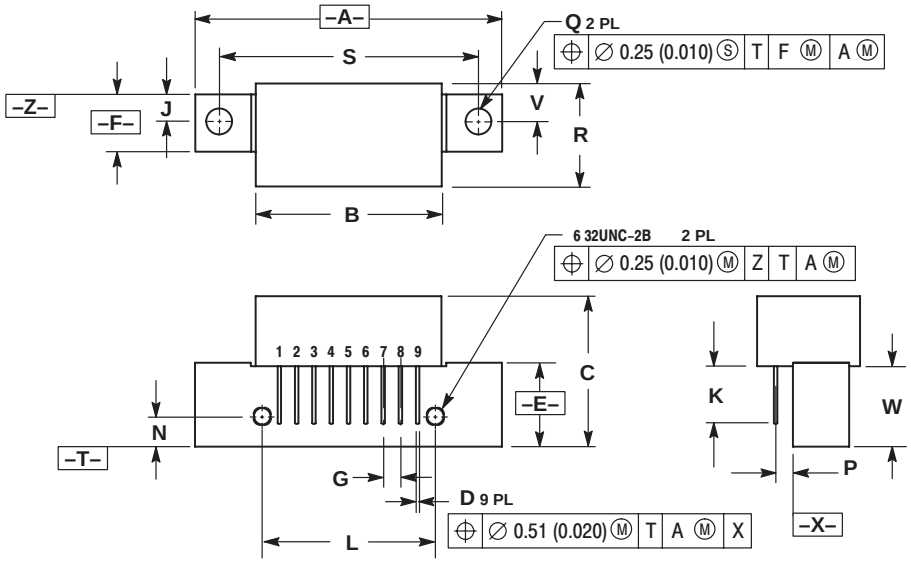


Figure 2. External Connections

PACKAGE DIMENSIONS



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

	INCHES		MILLIMETERS	
DIM	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

CASE 714P–03
ISSUE B

How to reach us:
USA/EUROPE/Locations Not Listed: Motorola Literature Distribution; P.O. Box 5405, Denver, Colorado 80217. 1–303–675–2140 or 1–800–441–2447

JAPAN: Motorola Japan Ltd.; SPS, Technical Information Center, 3–20–1, Minami–Azabu. Minato–ku, Tokyo 106–8573 Japan. 81–3–3440–3569

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Centre, 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong. 852–26668334

Technical Information Center: 1–800–521–6274

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