

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.

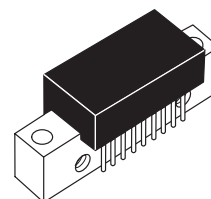
CA901A

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 $V_{CC} = 24\text{ V}$, $T_C = 25^\circ\text{C}$:
 Frequency Range — 40 to 860 MHz
 Power Gain — 17 dB Typ @ $f = 40\text{ MHz}$
 Noise Figure — 6.5 dB Typ @ $f = 500\text{ MHz}$
 120 dB μV 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 ($T_A = 25^\circ\text{C}$ 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 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -40 to +100 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$, $V_{CC} = 24\text{ V}$, 75 Ω system unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------|------------------|-------------|------------------|
| Frequency Range | BW | 40 | — | 860 | MHz |
| Power Gain ($f = 40\text{ MHz}$) | 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 $f = 40\text{--}100\text{ MHz}$ $f = 100\text{--}800\text{ MHz}$ $f = 800\text{--}860\text{ MHz}$ | IRL/ORL | 20 15 10/15 | — 17 12/18 | — — — | dB |
| Second Order Intermodulation Distortion ($V_{out} = +50\text{ dBmV}$ per ch.) | IMD ₂ | — | — | -60 -64 | dB |
| DIN45004B (See Figure 1) $f = 40\text{--}400\text{ MHz}$ $f = 400\text{--}860\text{ MHz}$ | DIN | 121 120 | — — | — — | dB μV |
| Noise Figure $f = 500\text{ MHz}$ $f = 860\text{ MHz}$ | NF | — — | 6.5 7.0 | 7.5 8.0 | dB |
| Supply Current | I_{DC} | — | 235 | 255 | mA |



LIFETIME BUY

LAST SHIP 06OCT02
LAST ORDER 06APR02

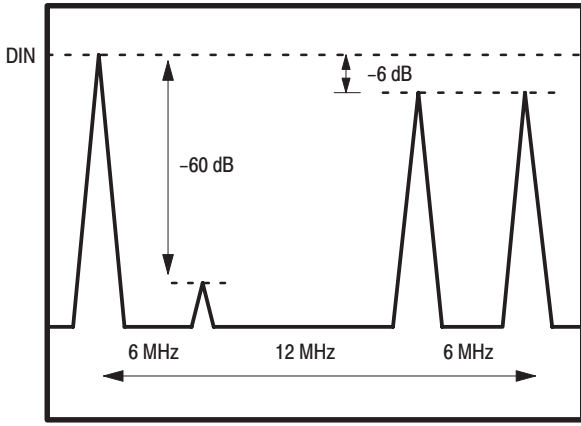


Figure 1. DIN45004B Test

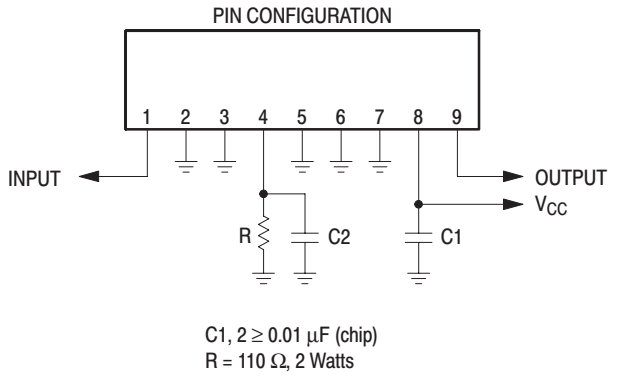
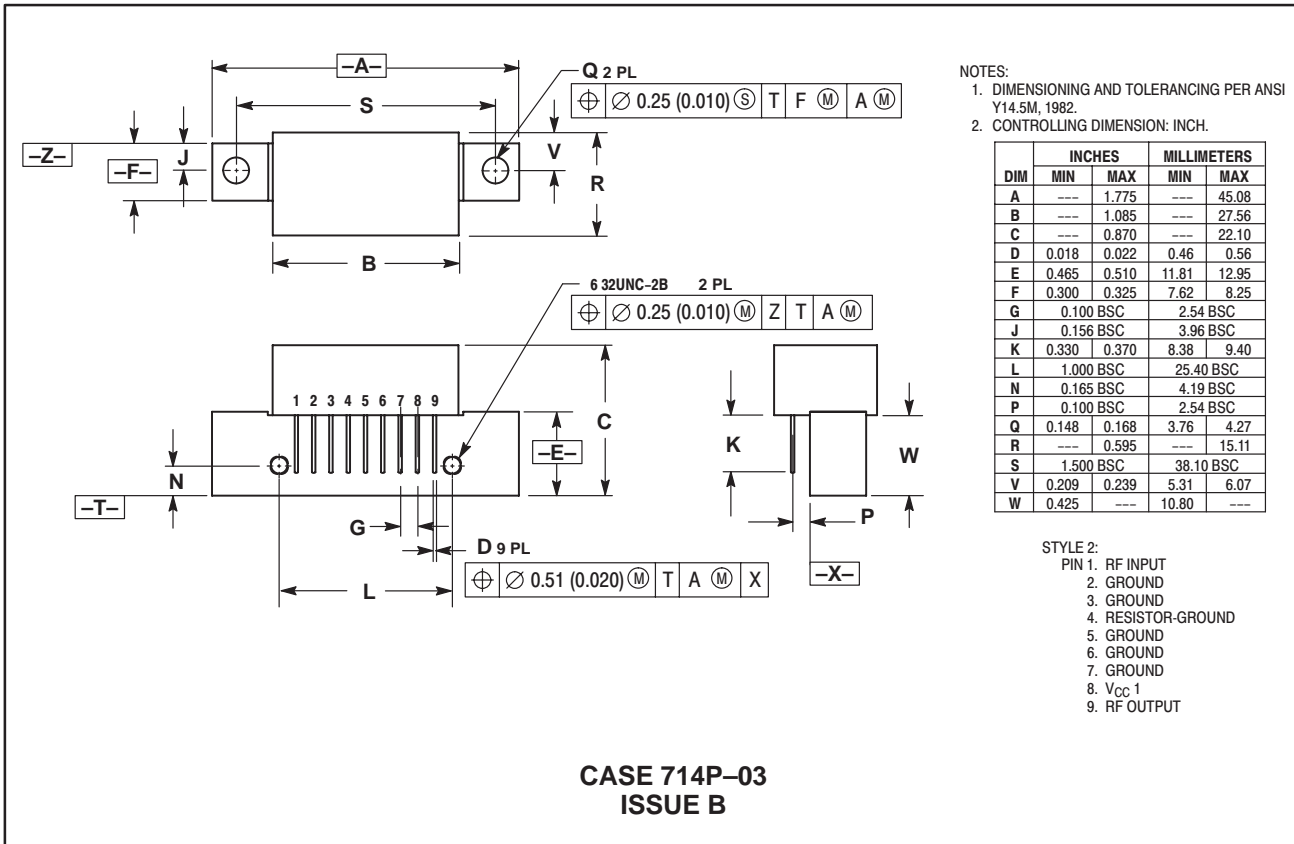



Figure 2. External Connections

C1, 2 ≥ 0.01 μF (chip)
R = 110 Ω, 2 Watts

PACKAGE DIMENSIONS



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