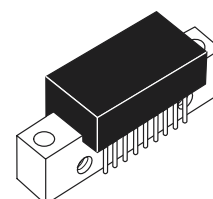


Product Is Not Recommended for New Design.
The next generation of higher performance products are in development. Visit our online
Selector Guides (<http://mot-sps.com/rf/sg/sg.html>) for scheduled introduction dates.

CA901A

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



CASE 714P-03, STYLE 2
(CA)

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

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.) CA901 CA901A	IMD ₂	— —	— —	–60 –64	dB
DIN45004B (See Figure 1) $f = 40\text{--}860\text{ MHz}$	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



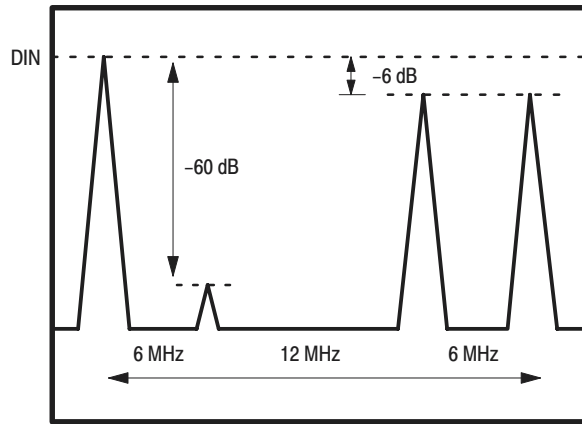


Figure 1. DIN45004B Test

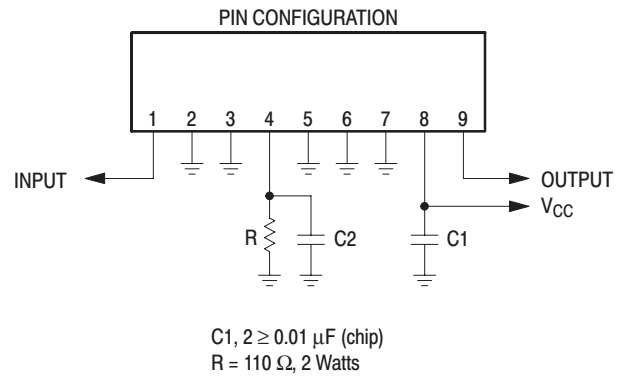
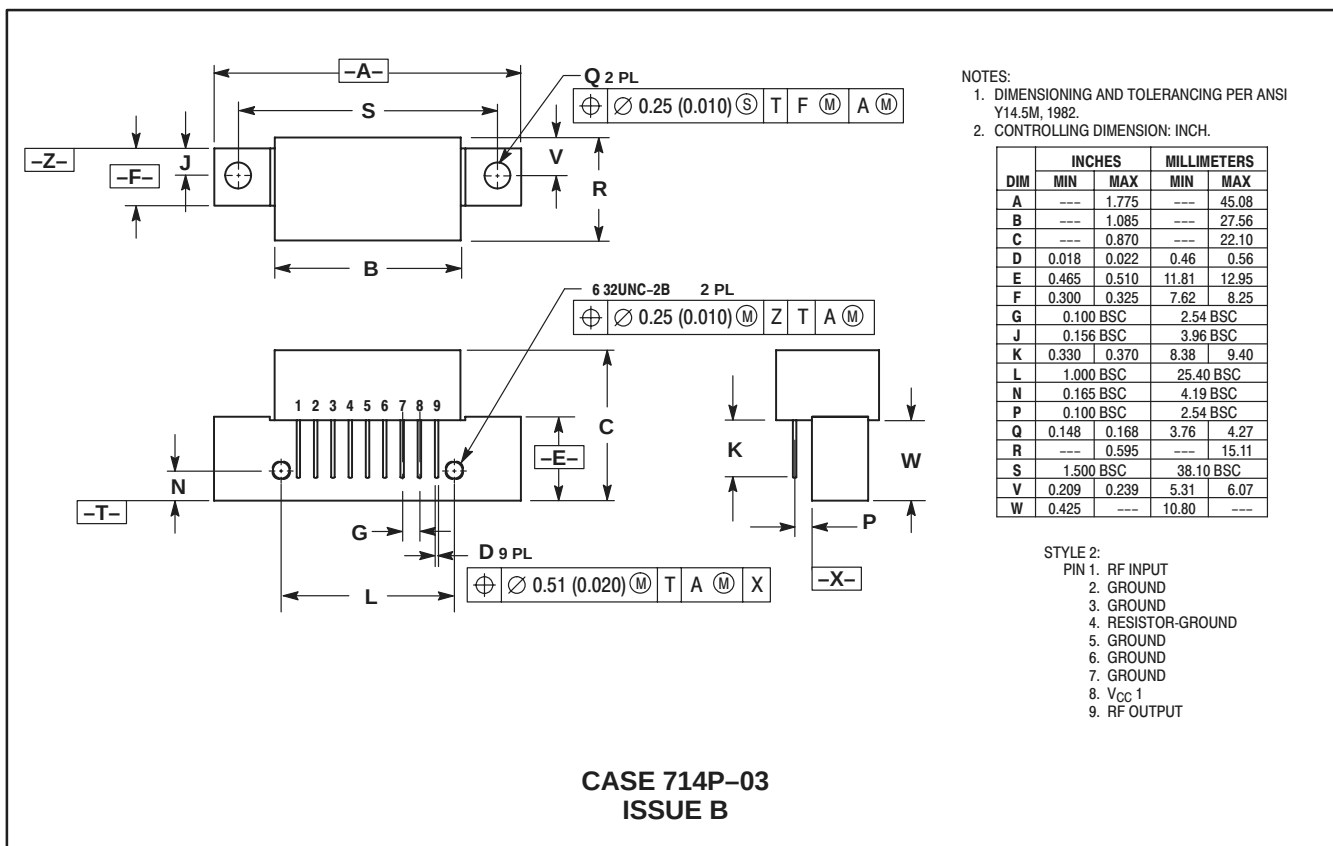


Figure 2. External Connections

FreeScale Semiconductor, Inc.

PACKAGE DIMENSIONS



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MOTOROLA

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CA901A/D