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The RF Line

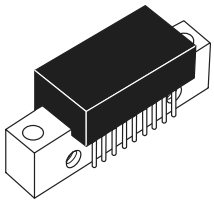
VHF/UHF CATV Amplifiers

CA922
CA922A

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 V_{CC} = 24 V, T_C = 25°C
  - Frequency Range — 40 to 860 MHz
  - Power Gain — 17 dB Typ @ f = 40 MHz
  - Noise Figure — 7.0 dB Typ @ f = 500 Mhz
  - 123 dBµV DIN45004B @ 860 MHz
- All Gold Metalization for Improved Reliability
- Superior Gain, Return Loss and DC Current Stability with Temperature
- Improved 2nd Order IMD Available (CA922A)

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



CASE 714P–03, STYLE 2

ARCHIVE INFORMATION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	26	V
RF Input Power Per Tone	P_{in}	+16	dBm
Storage Temperature	T_{stg}	– 40 to +100	°C
Operating Case Temperature Range	T_C	– 20 to +100	°C

ELECTRICAL CHARACTERISTICS (T_C = 25°C, V_{CC} = 24 V, 75 Ohm System)

Characteristic		Symbol	Min	Typ	Max	Unit
Supply Current		Idc	—	400	440	mA
Power Gain (f = 40 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 = 100–800 MHz f = 800–860 MHz	f = 40–100 MHz	IRL/ORL	20 15 10/13	— 17 12/15	— — —	dB
Second Order Intermodulation Distortion (V_o = +50 dBmV/ch.)	CA922 CA922A	IMD_2	— —	— —	– 63 – 67	dB dB
DIN45004B (See Figure 1) f = 400–860 MHz	f = 40–400 MHz	DIN	124 123	— —	— —	dBµV
Noise Figure f = 860 MHz	f = 500 MHz	NF	— —	7.0 8.0	8.5 9.5	dB

MOTOROLA

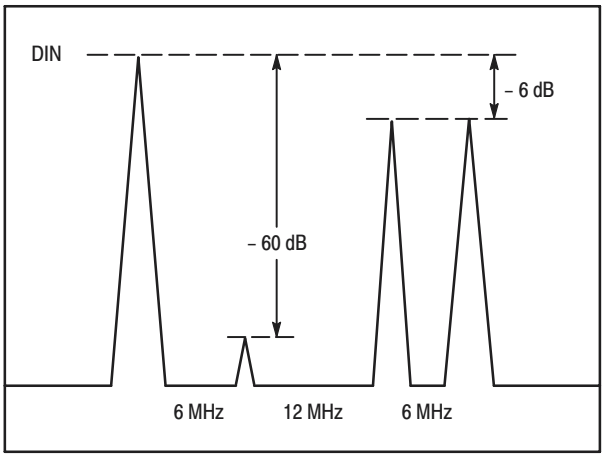


Figure 1. DIN45004B Test

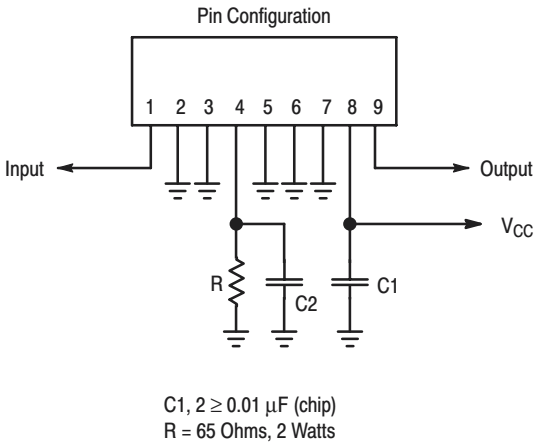
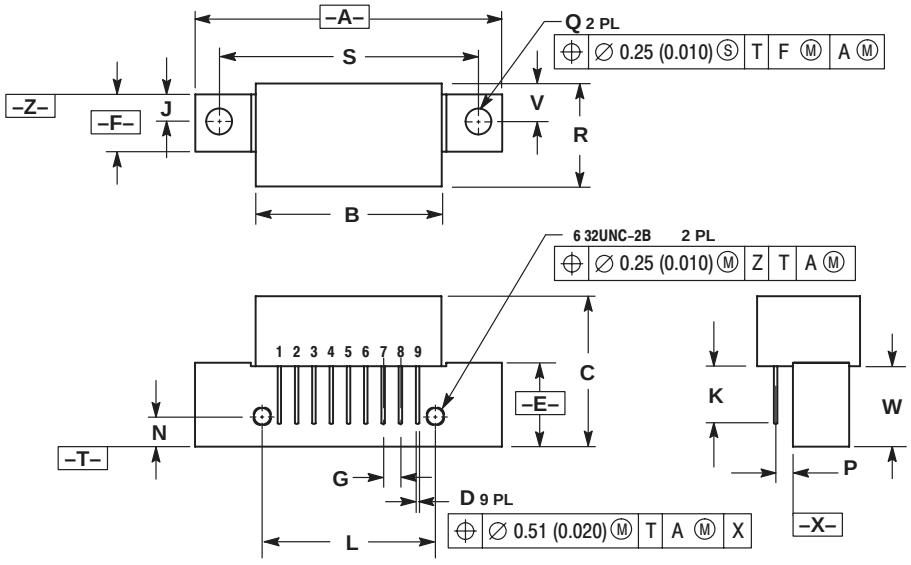


Figure 2. External Connections

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

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