

The RF Line

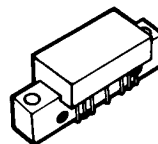
**35-Channel (300 MHz) CATV
Input/Output Trunk Amplifiers**

... designed for broadband applications requiring low-distortion amplification. Specifically intended for CATV market requirements. These amplifiers feature ion-implanted arsenic emitter transistors and an all gold metallization system. The input amplifier is tuned for minimum noise while the output amplifier is tuned for minimum distortion.

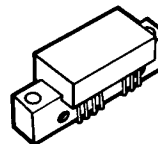
- Broadband Power Gain — @ $f = 40\text{--}300\text{ MHz}$
 $G_p = 22\text{ dB Typ @ } f = 50\text{ MHz}$
- Broadband Noise Figure — @ $f = 300\text{ MHz}$
 $NF = 5.5\text{ dB Max (CA2300)}$
- Low Distortion @ $V_{out} = 46\text{ dBmV}$
 $CTB = -68\text{ dB Max (CA2301)}$
- Available for Both Positive and Negative Supply Voltage Versions
- All Gold Metallization for Improved Reliability

**CA2300
CA2300R
CA2301
CA2301R**

**22 dB
40–300 MHz
35-CHANNEL
CATV INPUT/OUTPUT
TRUNK AMPLIFIERS**



**CA (POS. SUPPLY)
CASE 714F-01, STYLE 1
CA2300/CA2301**



**CA (NEG. SUPPLY)
CASE 714H-01, STYLE 1
CA2300R/CA2301R**

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	60	dBmV
DC Supply Voltage	V_{CC}	28	Vdc
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	300	MHz
Power Gain — 50 MHz	G_p	21.4	—	22.6	dB
Slope	S	0	—	1.4	dB
Gain Flatness	—	—	—	± 0.15	dB
Return Loss — Input/Output ($f = 40\text{--}300\text{ MHz}$)	IRL/ORL	18	—	—	dB
Second Order Intermodulation Distortion ($V_{out} = +50\text{ dBmV}$ per ch., ch. 2, 13, R)	IMD	—	—	-68 -66	dB
Cross Modulation Distortion ($V_{out} = +46\text{ dBmV}$ per ch., ch. 2 — 35-channel flat)	XMD	—	—	-65 -61	dB
Composite Triple Beat ($V_{out} = +46\text{ dBmV}$ per ch., ch. W — 35-channel flat)	CTB	—	—	-68 -64	dB
Noise Figure ($f = 300\text{ MHz}$)	NF	—	—	5.5 5.5	dB
DC Current	I_{DC}	—	220 180	—	mA