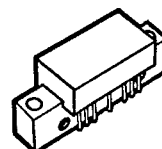


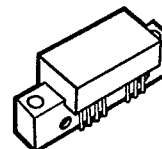
MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA
The RF Line
**52-Channel (400 MHz) CATV
Input/Output Trunk Amplifiers**

... 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 figure while the output amplifier is tuned for minimum distortion.

- Specified Characteristics at $V_{CC} = 24$ V, $T_C = 25^\circ\text{C}$:
 Frequency Range — 40 to 400 MHz
 Power Gain — 17.1 dB Typ @ $f = 50$ MHz
 Noise Figure — 7.5 dB Typ Ch. H14 (CA4101)
 CTB — -58 dB Max (CA4201)
- All Gold Metallization System for Improved Reliability
- Available in Both Positive and Negative Supply Voltages

CA4101
CA4101R
CA4201
CA4201R
17 dB
40-400 MHz
52-CHANNEL
CATV INPUT/OUTPUT
TRUNK AMPLIFIERS


CA (POS. SUPPLY)
CASE 714F-01, STYLE 1
CA4101/CA4201



CA (NEG. SUPPLY)
CASE 714H-01, STYLE 1
CA4101R/CA4201R

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+65	dBmV
DC Supply Voltage	V_{CC}	28	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 ($V_{CC} = 24$ V, $T_C = 25^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	400	MHz
Power Gain — 50 MHz	Gp	16.6	17.1	17.6	dB
Slope	S	+0.1	—	+1.2	dB
Gain Flatness	—	—	—	± 0.2	dB
Return Loss — Input/Output ($f = 40$ –400 MHz)	IRL/ORL	18	—	—	dB
Second Order Intermodulation Distortion ($V_{out} = +50$ dBmV per ch., ch. 2, 13, R)	CA4201,R CA4101,R IMD	—	—	-71 -69	dB
($V_{out} = +50$ dBmV per ch., ch. G, N, H14)	CA4201,R CA4101,R	—	-68 -66	—	dB
Cross Modulation Distortion ($V_{out} = +46$ dBmV per ch., ch. 2, 52-channel flat)	CA4201,R CA4101,R XMD ₅₂	—	—	-63 -59	dB
Composite Triple Beat ($V_{out} = +46$ dBmV per ch., ch. H14, 52-channel flat)	CA4201,R CA4101,R CTB ₅₂	—	—	-58 -54	dB
Noise Figure ($f =$ Ch. H14)	CA4201,R CA4101,R NF	—	8 7.5	9 8	dB
DC Current	CA4201,R CA4101,R I_{DC}	—	210 170	—	mA