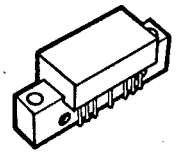
MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA

CA4411
CA4412

13 dB
5–200 MHz
CATV
INPUT/OUTPUT
REVERSE
AMPLIFIERS



CA
CASE 714F-01, STYLE 1

The RF Line

26-Channel (200 MHz) CATV Input/Output Reverse Amplifiers

. . . designed specifically for use as return amplifiers for mid-split and high-split 2-way cable TV systems. The input amplifier is tuned for minimum noise while the output amplifier is tuned for minimum distortion.

- Specified 24 Volt Characteristics
  - Bandwidth — 5 to 200 MHz
  - Power Gain — 13 dB Typ @ f = 10 MHz
  - Noise Figure — 5.5 dB Max @ f = 200 MHz (CA4411)
  - CTB — −65 dB @ V_{out} = 50 dBmV (CA4412)
- All Gold Metallization for Improved Reliability
- Superior Gain, Return Loss and DC Current Stability with Temperature

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	°C
Storage Temperature Range	T_{stg}	−40 to +100	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 24 V, T_C = 25°C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	5	—	200	MHz
Power Gain — 10 MHz		G_P	12.5	13	13.5	dB
Slope		S	— —	— —	+0.2 −0.5	dB
Gain Flatness		—	—	—	±0.25	dB
Return Loss — Input/Output (f = 5–150 MHz) (f = 150–200 MHz)		IRL/ORL	20 18	— —	— —	dB
Second Order Intermodulation Distortion (V_{out} = +55 dBmV per ch., ch. 2, ch. 6)	CA4411 CA4412	IMD	— —	— —	67 72	dB
Cross Modulation Distortion (V_{out} = +50 dBmV per ch., ch. 2, 26-channel flat)	CA4411 CA4412	XMD_{26}	— —	— —	−55 −60	dB
Composite Triple Beat (V_{out} = +50 dBmV per ch., ch. 11, 26-channel flat)	CA4411 CA4412	CTB	— —	— —	−60 −65	dB
Noise Figure (f = 200 MHz)	CA4411 CA4412	NF	— —	— —	5.5 6	dB
DC Current	CA4411 CA4412	I_{DC}	— —	165 200	180 220	mA

5