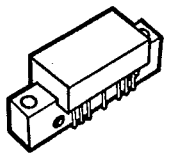
MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA

CA3600

34 dB
40–330 MHz
40-CHANNEL CATV
LINE EXTENDER
AMPLIFIER



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

The RF Line

40-Channel (330 MHz) CATV Line Extender Amplifier

. . . 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.

- Specified 35 Channel, 24 Volt Characteristics:
  Bandwidth — 40–330 MHz
  Power Gain — 34 dB Typ @ f = 50 MHz
  Noise Figure — 5.5 dB Max @ f = 330 MHz
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization for Improved Reliability

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+50	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	40	—	330	MHz
Power Gain — 50 MHz	G_P	33	34	35	dB
Slope	S	0	—	+1.7	dB
Gain Flatness	—	—	—	±0.3	dB
Return Loss — Input/Output (f = 40–330 MHz)	IRL/ORL	18	—	—	dB
Second Order Intermodulation Distortion (V_{out} = +50 dBmV per ch., ch. 2, 13, R)	IMD	—	—	−67	dB
Cross Modulation Distortion (V_{out} = +46 dBmV per ch., ch. 2, 40-channel flat)	XMD	—	—	−62	dB
Composite Triple Beat (V_{out} = +46 dBmV per ch., ch. H2, 40-channel flat)	CTB	—	—	−64	dB
Noise Figure (f = 50 MHz) (f = 330 MHz)	NF	— —	— —	4.5 5.5	dB
DC Current	I_{DC}	—	310	—	mA