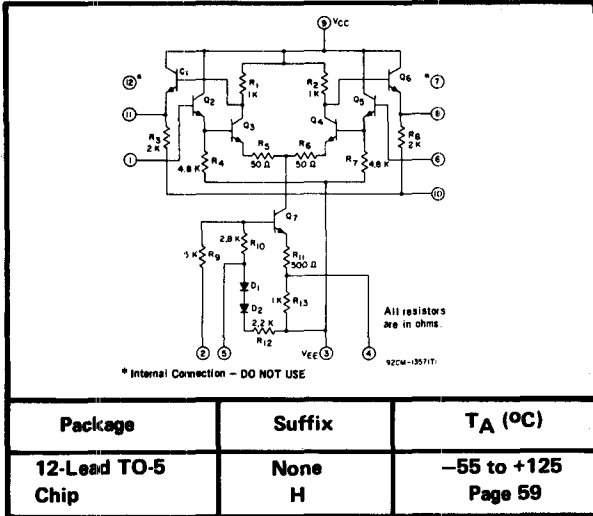


# 3 Differential Amplifiers

## Video and Wide-Band Amplifiers

CA3001



### Applications and Features

- Communications equipment
- DC, if, and video systems
- Emitter-follower input and output
- Mixer
- Modulator
- Push-pull input and output
- Schmitt trigger

### Electrical Characteristics at $T_A = 25^\circ\text{C}$

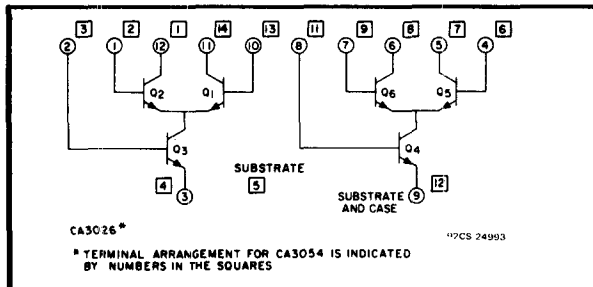
Input Offset Voltage	1.5	mV typ.
Differential Voltage Gain at 1.75MHz	16	dB min.
Bandwidth (-3dB point)	16	MHz min.
AGC Range at 1.75MHz	55	dB min.
Parallel Input Resistance	50	k $\Omega$ typ.
Output Resistance	70	$\Omega$ max.

Package	Suffix	$T_A$ ( $^\circ\text{C}$ )
12-Lead TO-5 Chip	None H	-55 to +125 Page 59

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## Dual Independent Differential Amplifiers

CA3026, CA3054



### Applications and Features

- Balanced (push-pull) cascode amplifiers
- Balanced quadrature detectors
- Cascode limiters
- Doubly balanced modulators and demodulators
- Dual Schmitt triggers
- Dual sense amplifiers

- IF amplifiers (differential and/or cascode)
- Multifunction combinations: rf/mixer/oscillator, converter/if
- Pairs of balanced mixers
- Synchronous detectors
- Synthesizer mixers

### Electrical Characteristics at $T_A = 25^\circ\text{C}$

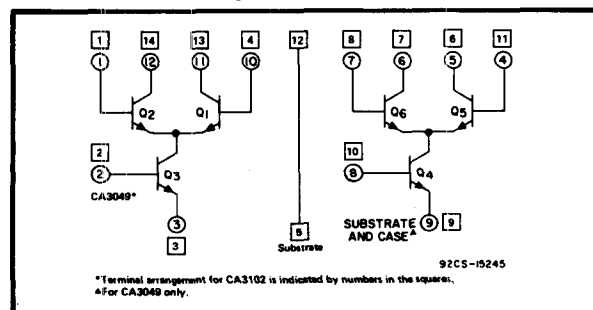
Input Offset Voltage	5	mV max.
Input Offset Current	2	$\mu\text{A}$ max.
Voltage Gain (single-stage double-ended output)	32	dB typ.
Common-Mode Rejection Ratio (per amplifier)	100	dB typ.

Package	Suffix	$T_A$ ( $^\circ\text{C}$ )
12-Lead TO-5 (CA3026)	None	-55 to +125
14-Lead DIP (CA3054)	None	-55 to +125
Beam Lead (CA3054)	L	Page 59
Chip	H	Page 59

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High-Reliability Version (CA3026) See Page 41

## Dual Independent Differential RF/IF Amplifiers

CA3049, CA3102



### Applications and Features

For low-power applications from dc to 500 MHz

- Balanced quadrature detector
- Balanced (push-pull) cascode amplifier
- Cascode limiter
- Doubly balanced modulator and demodulator
- Dual Schmitt trigger
- Dual sense amplifier

- Independently accessible inputs and outputs
- IF amplifier (differential and/or cascode)
- Product detector
- Synchronous detector
- VHF amplifier
- VHF mixer

### Electrical Characteristics at $T_A = 25^\circ\text{C}$

	CA3049	CA3102E
Input Offset Voltage	—	5 5 mV max.
Input Offset Current	—	3 3 $\mu\text{A}$ max.
Collector-Cutoff Current	100	100 nA max.
Collector-to-Emitter Breakdown Voltage	15	15 V min.
Insertion Power Gain at 200 MHz	23	23 dB typ.
Noise Figure at 200 MHz	4.6	4.6 dB typ.

Package	Suffix	$T_A$ ( $^\circ\text{C}$ )
12-Lead TO-5 (CA3049)	T	-55 to +125
14-Lead DIP (CA3102)	E	-55 to +125
Beam Lead (CA3049)	L	Page 59
Chip	H	Page 59

File No. 611\*  
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