CA3054

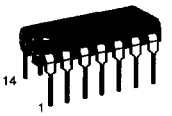
DUAL DIFFERENTIAL AMPLIFIER

Dual Independent Differential Amplifier

The CA3054 consists of two independent differential amplifiers with associated constant-current transistors on a common monolithic substrate. The six NPN transistors which comprise the amplifiers are general purpose devices useful from DC to 120 MHz.

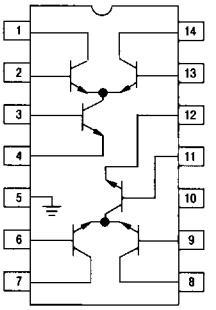
The monolithic construction of the CA3054 provides close electrical and thermal matching of the amplifiers which makes this device particularly useful in dual channel applications where matched performance of the two channels is required.

- Two Differential Amplifiers on a Common Substrate
- Independently Accessible Inputs and Outputs
- Maximum Input Offset Voltage: ±5.0 mV



P SUFFIX
PLASTIC PACKAGE
CASE 646

PIN CONNECTIONS



Pin 5 is connected to substrate and must remain at the lowest circuit potential

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage Collector-Base Voltage Emitter-Base Voltage	V_{CEO} V_{CBO} V_{EBO}	15 20 5.0	Vdc
Collector-Substrate Voltage	V_{CIO}	20	Vdc
Collector Current — Continuous	I_C	50	mAdc
Junction Temperature	T_J	150	°C
Operating Ambient Temperature Range	T_A	–40 to +85	°C
Storage Temperature Range	T_{stg}	–65 to +150	°C

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ELECTRICAL CHARACTERICISTICS (T_A = 25°C, unless otherwise noted.)

Characteristics	Symbol	Min	Typ	Max	Unit
STATIC CHARACTERISTICS (For Each Differential Amplifier)					
Input Offset Voltage (V_{CB} = 3.0 Vdc)	V_{IO}	—	—	5.0	mV
Input Offset Current (V_{CB} = 3.0 Vdc)	I_{IO}	—	—	2.0	µA
Input Bias Current (V_{CB} = 3.0 Vdc)	I_{IB}	—	—	24	µA
STATIC CHARACTERISTICS (For Each Transistor)					
Base-Emitter Voltage	V_{BE}				Vdc
(V_{CB} = 3.0 Vdc, I_C = 50 µA)		—	—	0.70	
(V_{CB} = 3.0 Vdc, I_C = 1.0 mA)		—	—	0.80	
(V_{CB} = 3.0 Vdc, I_C = 3.0 mA)		—	—	0.85	
(V_{CB} = 3.0 Vdc, I_C = 10 mA)		—	—	0.90	
Collector Cutoff Current (V_{CB} = 10 Vdc, I_E = 0)	I_{CBO}	—	—	100	nA
Collector-Emitter Breakdown Voltage (I_C = 1.0 mA)	$V_{(BR)CEO}$	15	—	—	Vdc
Collector-Base Breakdown Voltage (I_C = 10 µA)	$V_{(BR)CBO}$	20	—	—	
Collector-Substrate Breakdown Voltage (I_C = 10 µA)	$V_{(BR)CIO}$	20	—	—	
Emitter-Base Breakdown Voltage (I_E = 10 µA)	$V_{(BR)EBO}$	5.0	—	—	