

AN6913, AN6913L

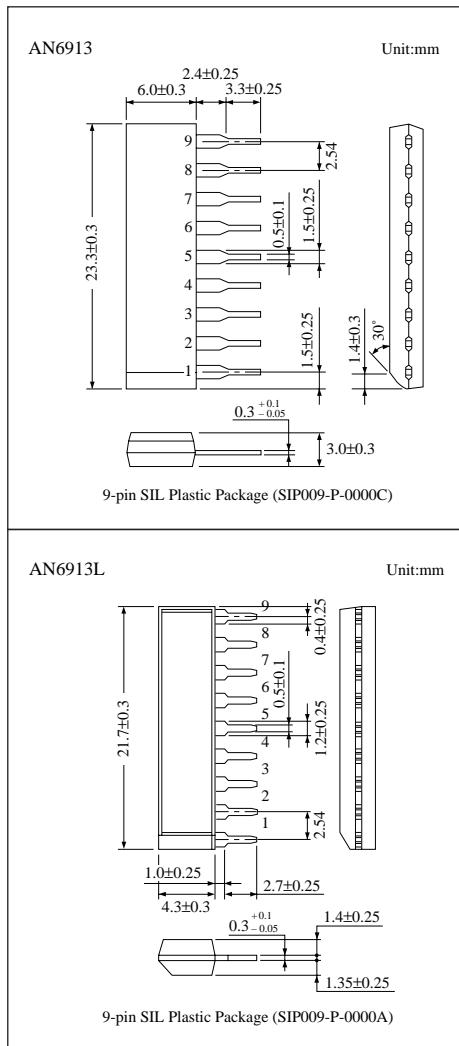
Dual Comparators

Overview

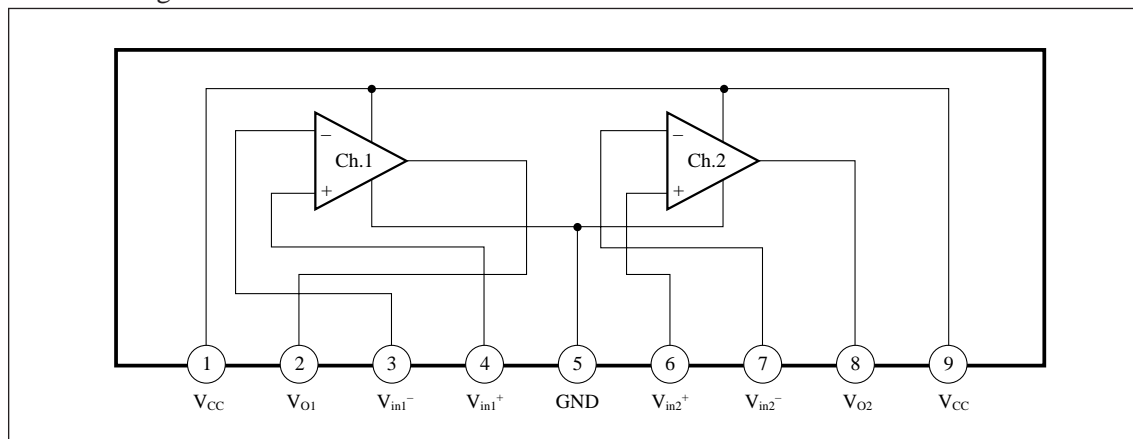
The AN6913 and AN6913L are dual (2-channel) comparators with a wide range of operating supply voltage.

Features

- Wide range of operating supply voltage
Single power supply: 2 to 36V
Dual power supply: ± 1 to ± 18 V
- Low circuit current: 0.6mA typ.
- Wide range of common-mode input voltage
: 0V to $V_{CC} - 1.5$ V (single power supply)
- Open collector output



Block Diagram



Pin Descriptions

Pin No.	Pin name
1	Supply voltage
2	Ch.1 output
3	Ch.1 inverting input
4	Ch.1 non-inverting input
5	GND
6	Ch.2 non-inverting input
7	Ch.2 inverting input
8	Ch.2 output
9	Supply voltage

Absolute Maximum Rating (Ta=25°C)

Parameter		Symbol	Rating	Unit
Voltage	Supply voltage	V_{CC}	36	V
	Common-mode input voltage	V_{ICM}^{*1}	- 0.3 to +36	V
	Differential input voltage	V_{ID}^{*2}	36	V
	Output applied voltage	V_1, V_7	24	V
Power dissipation		P_D	500	mW
Operating ambient temperature		T_{opr}	-30 to +85	°C
Storage temperature		T_{stg}	-55 to +150	°C

*1 The common-mode input voltage is applied to the non-inverting input pin and inverting input pin simultaneously.

*2 Differential input corresponds to the potential difference between the non-inverting input pin and inverting input pin.

Recommended Operating (Ta=25°C)

Parameter	Symbol	Range
Operating supply voltage range	V_{CC}	Single power supply 2V to 36V
		Dual power supply ±1V to ±18V

Electrical Characteristics (V_{CC}=5V, Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	$V_{I(offset)}$		—	1	5	mV
Input offset current	I_{IO}		—	—	50	nA
Input bias current	I_{Bias}		—	—	250	nA
Voltage gain	G_V	$R_L=15k\Omega$	—	200	—	V/mV
Common-mode input voltage width	V_{CM}		0	—	$V_{CC}-1.5$	V
Supply current	I_{CC}	$R_L=\infty$	—	0.6	1.5	mA
Response time	t_r	$R_L=5.1k\Omega, V_{RL}=5V$	—	1.3	—	μs
Output sink current	I_{SINK}	$V_{REF}=0V, V_{IN}=1V, V_O\leq 1.5V$	10	—	—	mA
Output voltage low level	V_{OL}	$V_{REF}=0V, V_{IN}=1V, I_{SINK}=3mA$	—	0.2	0.4	V
Output pin leak current	$I_{O(Leak)}$	$V_{IN}=0V, V_{REF}=1V, V_O=5V$	—	0.1	—	nA

■ Characteristics Curve

