AN6913, AN6913L

Dual Comparators

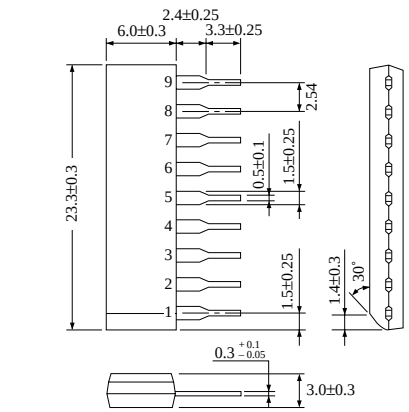
■ Overview

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

■ Features

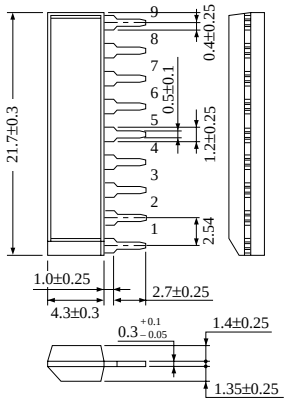
- Wide range of operating supply voltage
  Single power supply:2 to 36V
  Dual power supply:±1 to±18V
- Low circuit current:0.6mA typ.
- Wide range of common-mode input voltage
  :0V to V_{CC}–1.5V (single power supply)
- Open collector output

AN6913 Unit:mm



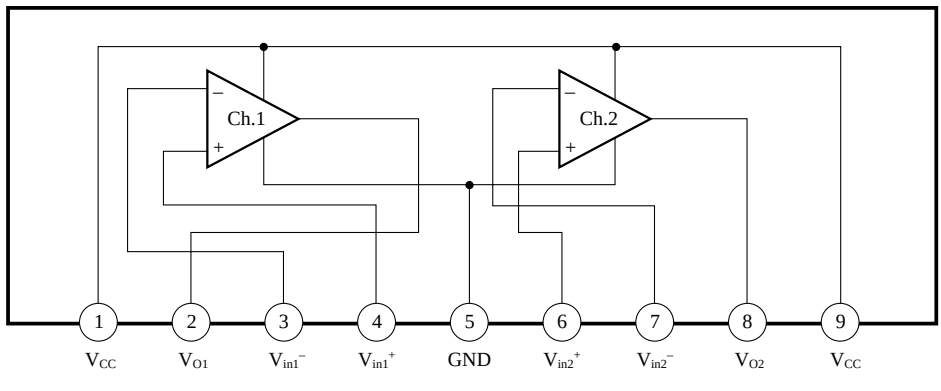
9-pin SIL Plastic Package (SIP009-P-0000C)

AN6913L Unit:mm



9-pin SIL Plastic Package (SIP009-P-0000A)

■ 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)

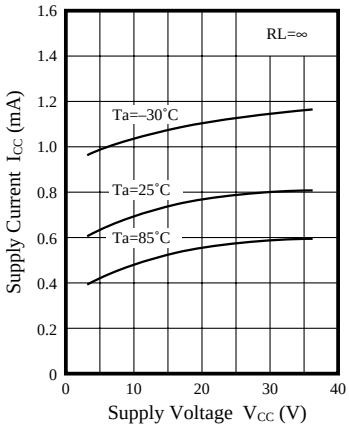
Parameter	Symbol	Range
Operating supply voltage range	V_{CC}	Single power supply 2V to 36V
		Dual power supply ±1V to ±18V

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

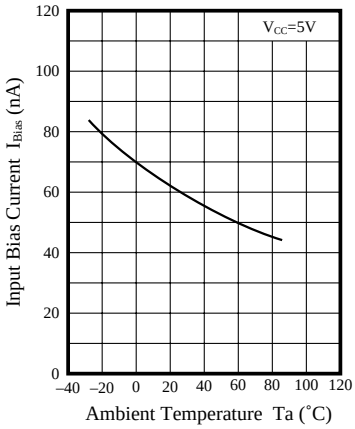
Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	$V_{I\,(offset)}$		—	1	5	mV
Input offset current	I_{IO}		—	—	50	nA
Input bias current	I_{Bias}		—	—	250	nA
Voltage gain	G_V	R_L=15kΩ	—	200	—	V/mV
Common-mode input voltage width	V_{CM}		0	—	V_{CC}–1.5	V
Supply current	I_{CC}	R_L= ∞	—	0.6	1.5	mA
Response time	t_r	R_L=5.1kΩ, V_{RL}=5V	—	1.3	—	µs
Output sink current	I_{SINK}	V_{REF}= 0V, V_{IN}=1V, V_O≦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

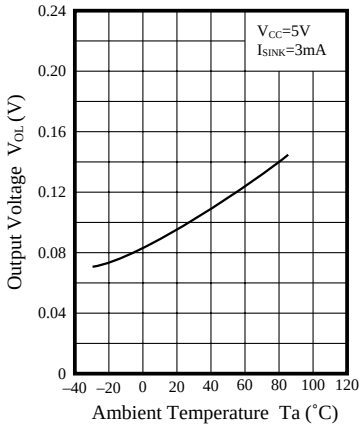
I_{CC}–V_{CC}



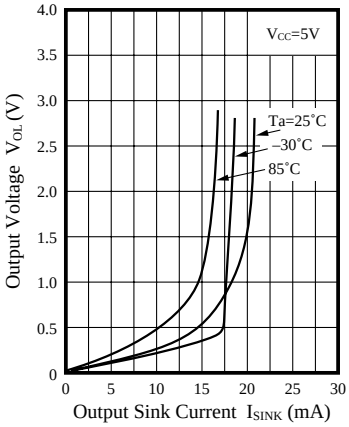
I_{Bias}–Ta



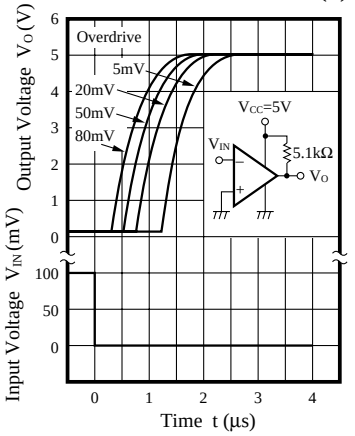
V_{OL}–Ta



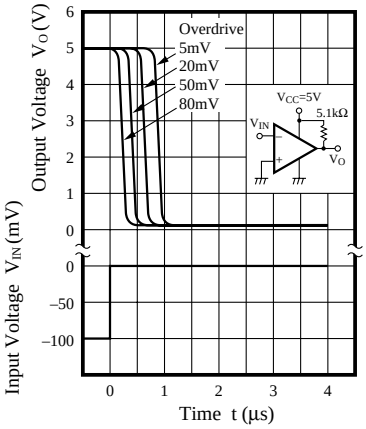
V_{OL}– I_{SINK}



Transfer Characteristic (1)



Transfer Characteristic (2)



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