

AN6915, AN6916, AN6916S

Large Sink Current Dual Comparators

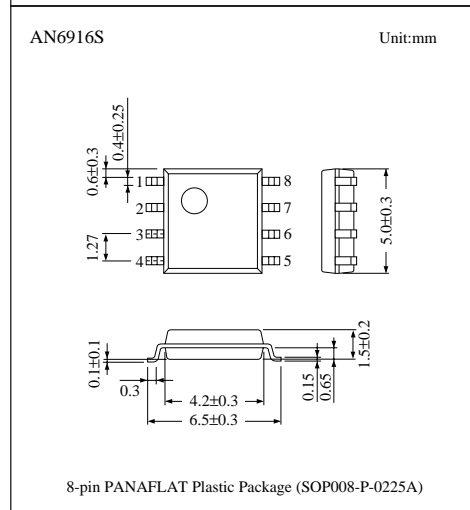
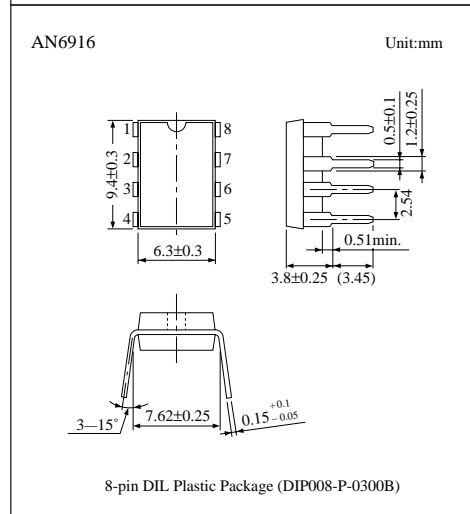
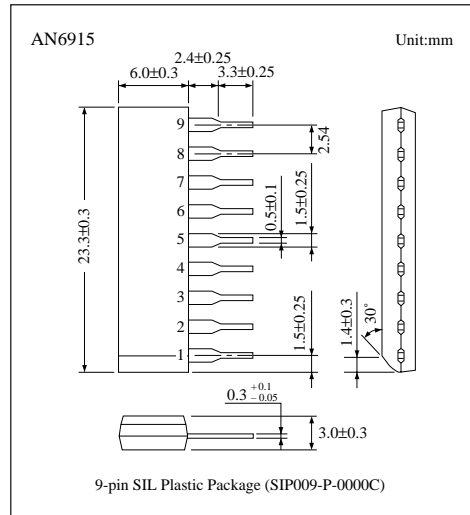
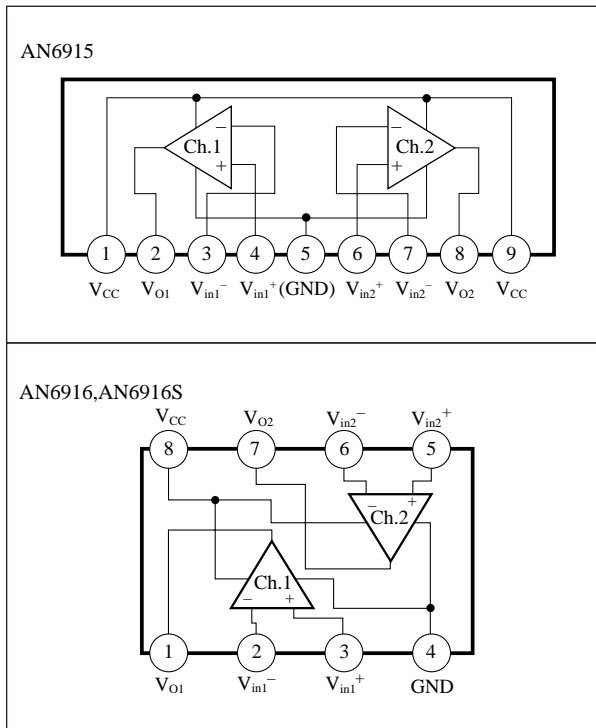
Overview

The AN6915, the AN6916 and the AN6916S are dual voltage comparators with large output sink current and wide range of operating supply voltage.

Features

- Large sink current (70mA), direct drive for relays or lamps
- Wide range of supply voltage: $V_{CC(opr.)}=2$ to 36V
- Wide range common-mode input voltage: 0 to $V_{CC}-1.5V$
- Open collector output

Block Diagram



■ Pin Descriptions

〈AN6915〉

Pin No.	Pin name
1	V _{CC}
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	V _{CC}

〈AN6916, AN6916S〉

Pin No.	Pin name
1	Ch.1 output
2	Ch.1 inverting input
3	Ch.1 non inverting input
4	GND
5	Ch.2 non inverting input
6	Ch.2 inverting input
7	Ch.2 output
8	V _{CC}

■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
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 current	I _{OL} *3	150	mA
Power dissipation	AN6915, AN6916	500	mW
	AN6916S	360	
Operating ambient temperature	T _{opr}	-30 to +85	°C
Storage temperature	AN6915, AN6916	-55 to +150	°C
	AN6916S	-55 to +125	

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

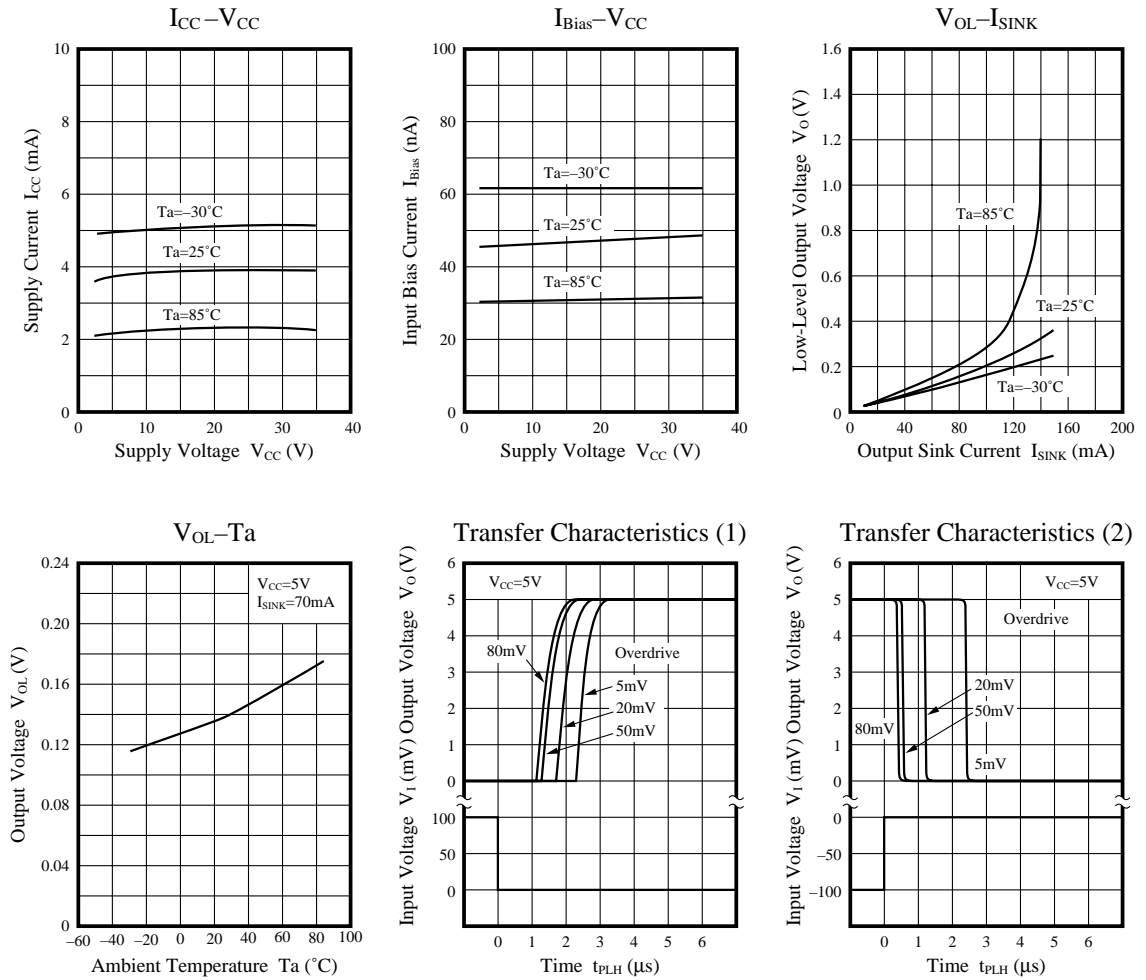
*2 Differential input is equivalent to the potential difference between the non-inverting input pin and inverting input pin.

*3 In case output level is "L".

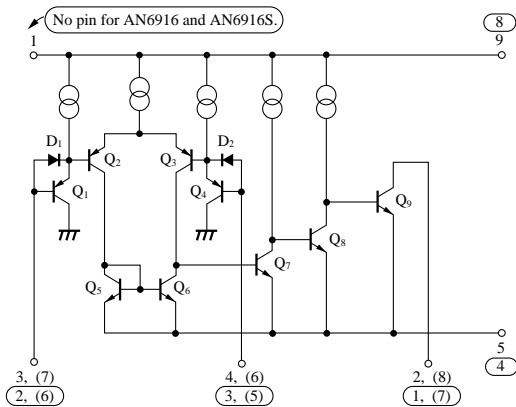
■ Electrical Characteristics (V_{CC}=5V, Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	V _{I (offset)}		—	1	5	mV
Input offset current	I _{IO}		—	1	50	nA
Input bias current	I _{Bias}		—	50	200	nA
Voltage gain	G _V	R _L =15kΩ	—	200	—	V/mV
Common-mode input voltage range	V _{CM}		0	—	V _{CC} -1.5	V
Supply current	I _{CC}	R _L =∞	—	3.8	5.3	mA
Response time (1)	t _{PLH}	R _L =5.1kΩ	—	2	—	μs
Response time (2)	t _{PHL}	R _L =5.1kΩ	—	1	—	μs
Low level output voltage	V _{OL}	V _{REF} =0V, V _I =1V, I _{SINK} =70mA	—	0.14	0.4	V
Output leakage current	I _{O (Leak)}	V _{REF} =1V, V _I =0V, V _O =5V	—	—	0.1	μA

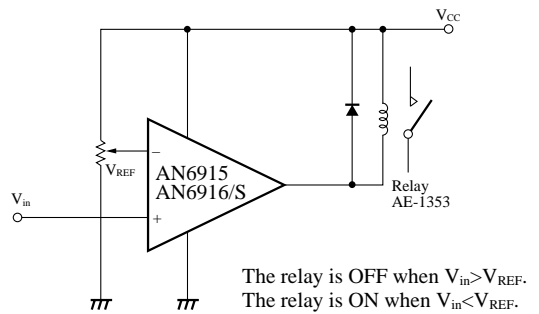
■ Characteristics Curve



■ Schematic Diagram (1/2)



■ Application Circuit



Note 1) The No. in \circ are pin No. of AN6916 and AN6916S.

Note 2) The pin No. in () are for Ch.2.



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