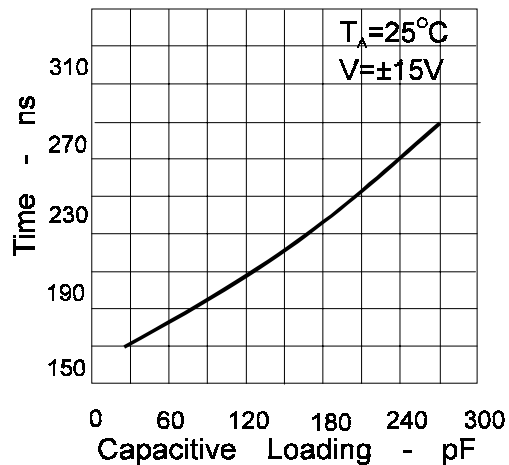
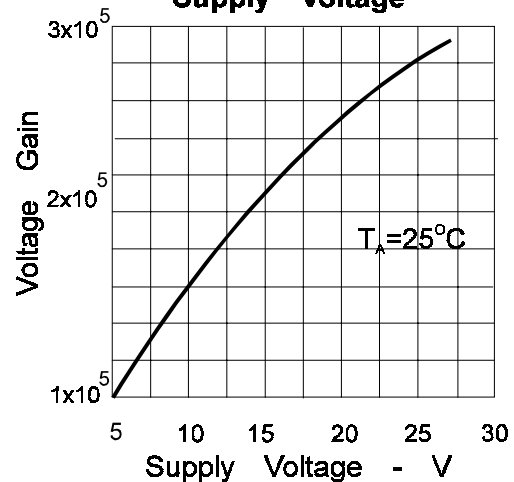
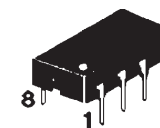
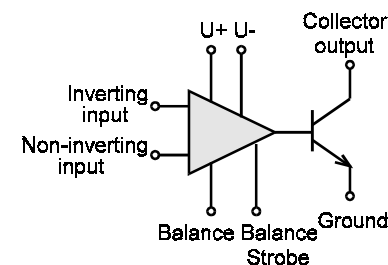
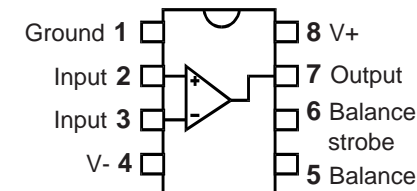


Response Time for vs Capacitive Loading

Voltage Gain vs Supply Voltage

Voltage Comparator
General Description

The AS211N is a voltage comparator that has input currents nearly a thousand times lower than devices like the LM106 or LM710. It is also designed to operate over a wider range of supply voltage: from standard $\pm 15V$ op amp supplies down to the single 5V supply used for IC logic. Its output is compatible with RTL, DTL and TTL as well as MOS circuits. Further, it can drive lamps or relays, switching voltages up to 50V at currents as high as 50 mA.

Features

- Operates from single 5V supply.
- Input current: 150 nA max. over temperature.
- Offset current: 20 nA max. over temperature.
- Differential input voltage range: $\pm 30V$.
- Power consumption: 135 mW at $\pm 15V$.

Functional diagram

Connection diagram


Package: 8-lead plastic DIP

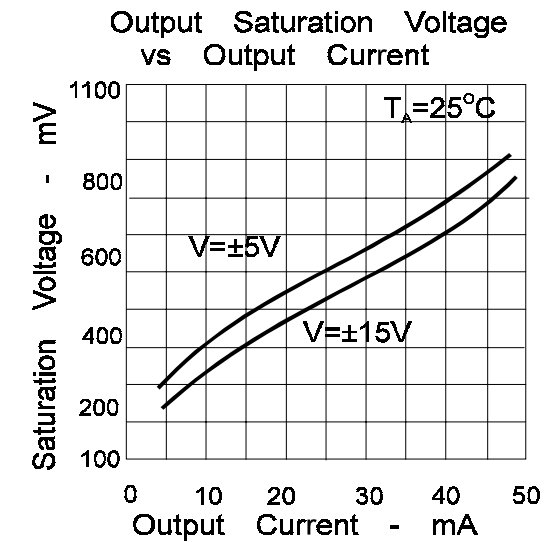
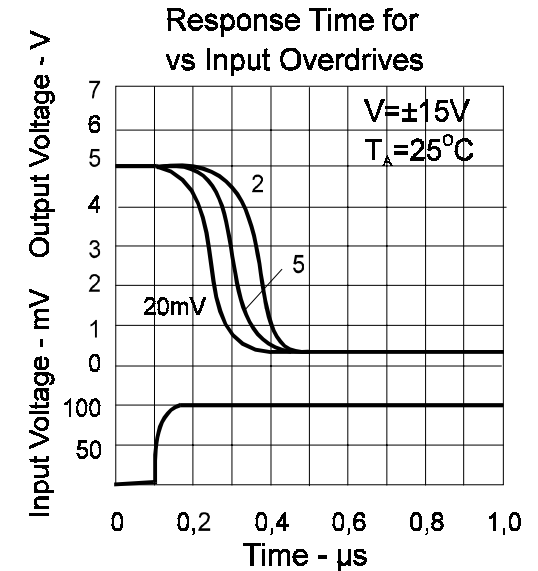


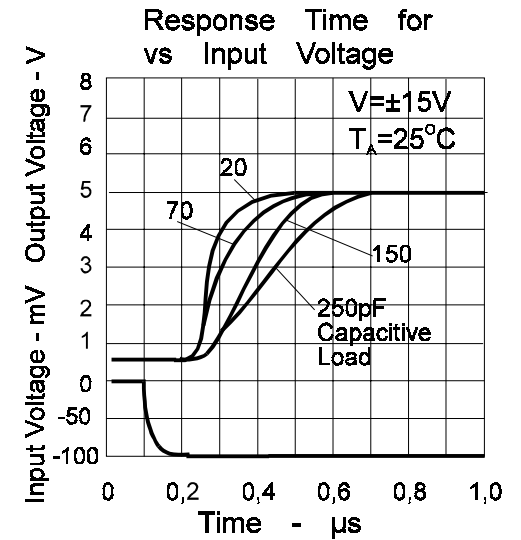
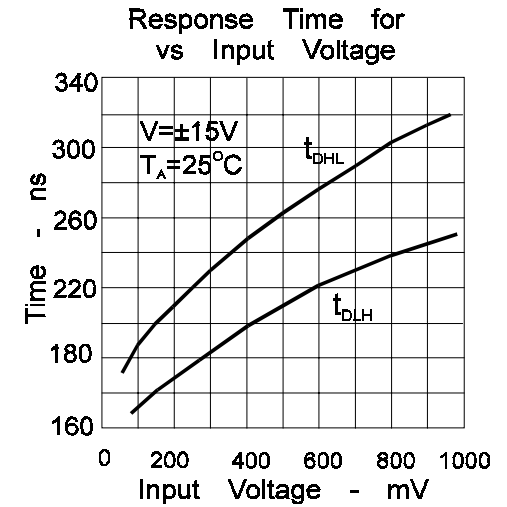
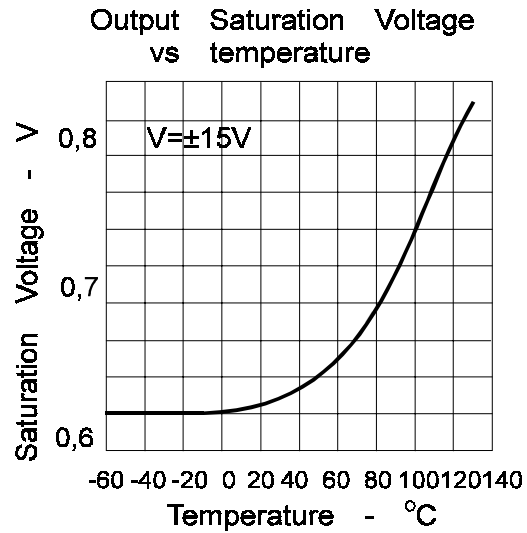
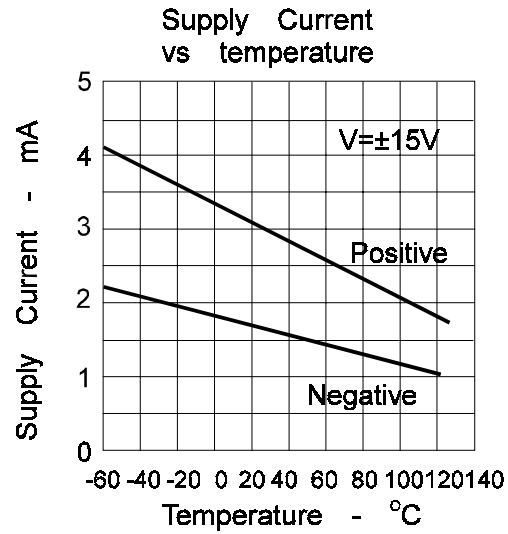
Absolute maximum rating

Parameter	Rating	Units
Total Supply Voltage (U_{84})	36	V
Output to Negative Supply Voltage (U_{74})	50	V
Ground to Negative Supply Voltage (U_{14})	30	V
Differential Input Voltage	± 30	V
Input Voltage	± 15	V
Power Dissipation	500	mW
Operating Temperature Range	-25 to 85	$^{\circ}\text{C}$
Storage Temperature Range	-65 to 150	$^{\circ}\text{C}$

Electrical characteristics ($\pm U=15\text{V}$)

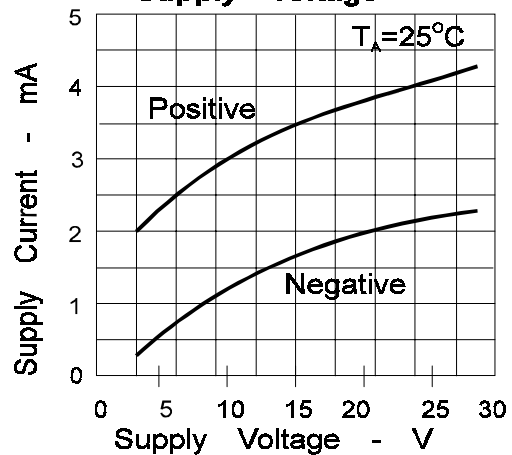
Parameter	Conditions	Min	Typ	Max	Units
Input Offset Voltage	$T_A = +25^{\circ}\text{C}$, $U_{in} = 0\text{V}$		0,7	3,0	mV
Over temperature range				4,0	mV
Input Bias Current	$T_A = +25^{\circ}\text{C}$, $U_{in} = 0\text{V}$		60	100	nA
Over temperature range				150	nA
Input Offset Current	$T_A = +25^{\circ}\text{C}$, $U_{in} = 0\text{V}$		4,0	10	nA
Over temperature range				20	nA
Response Time	$U_{in} = 5\text{mV}$ overdrive		200	300	ns
Supply Current	$U_{in} = 10\text{mV}$				
Positive	$+25^{\circ}\text{C} < T_A < +85^{\circ}\text{C}$		5,0	6,0	mA
Negative	$T_A = -25^{\circ}\text{C}$			7,0	mA
	$+25^{\circ}\text{C} < T_A < +85^{\circ}\text{C}$		4,0	5,0	mA
	$T_A = -25^{\circ}\text{C}$			6,0	mA
Voltage Gain	$-25^{\circ}\text{C} < T_A < +25^{\circ}\text{C}$	150			V/mV
	$T_A = +85^{\circ}\text{C}$	50			V/mV
Saturation Voltage	$U_{in} = 10\text{mV}$, $I_{out} = 50\text{mA}$		0,75	1,5	V
	$U_{in} = 10\text{mV}$, $I_{out} = 5\text{mA}$		0,2	0,4	V
Output Leakage Current	$U_{in} = 10\text{mV}$, $U_{out} = 40\text{V}$				
	$-60^{\circ}\text{C} < T_A < +25^{\circ}\text{C}$		0,5	10	nA
	$T_A = +85^{\circ}\text{C}$		0,1	0,5	μA



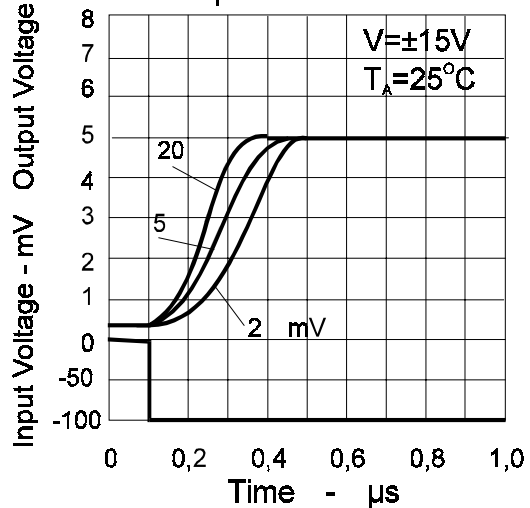




Supply Current vs Supply Voltage



Response Time for vs Input Overdrives



Typical performance characteristics

