

AN1555N, AN1555NS

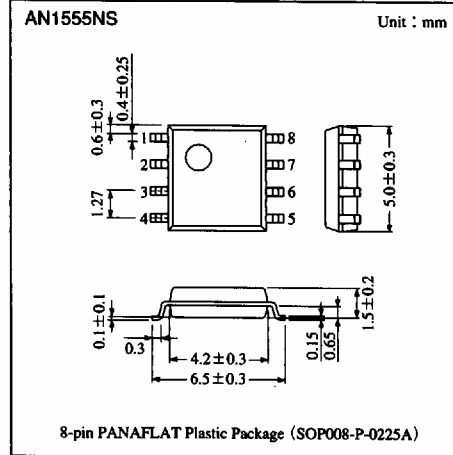
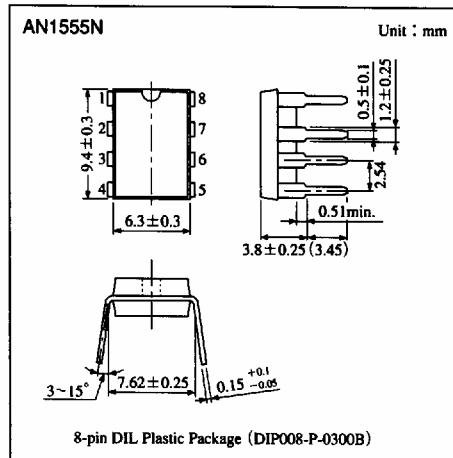
General-use Precision Timers

Overview

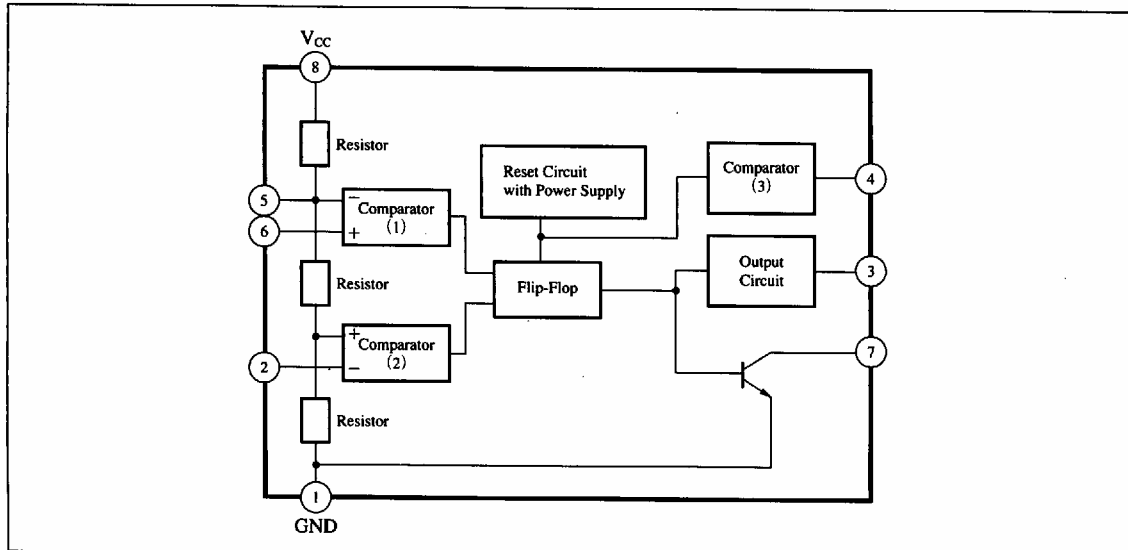
The AN1555N, and the AN1555NS are the integrated circuits designed for generating an accurate and stable timing pulse and timer time. They are widely applicable a monostable or unstable multivibrator, etc.

Features

- Timing control microseconds to hours
- Max frequency in oscillation mode 100kHz
- High stability vs. ambient temperature and supply voltage
- TTL compatible output
- 200mA sink or source output current capability
- Reset voltage : 1.4V typ



Block Diagram



Pin Descriptions

Pin No.	Pin name
1	GND
2	Trigger
3	Output
4	Reset
5	Control voltage
6	Threshold
7	Discharge
8	V _{CC}

Absolute Maximum Ratings (Ta=25°C)

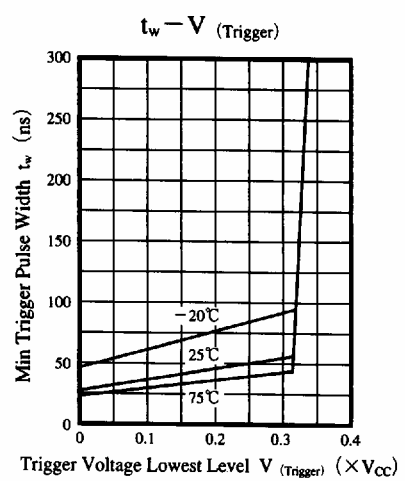
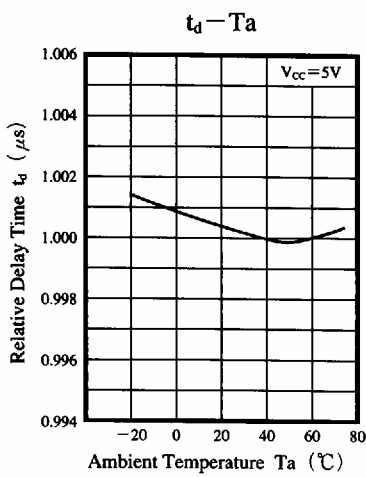
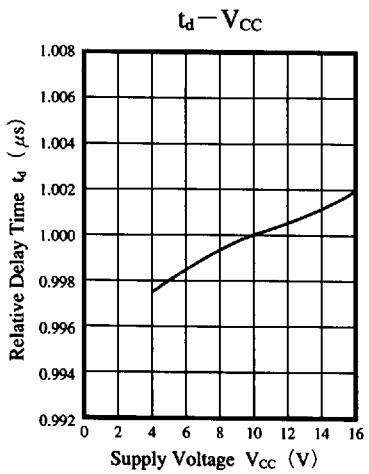
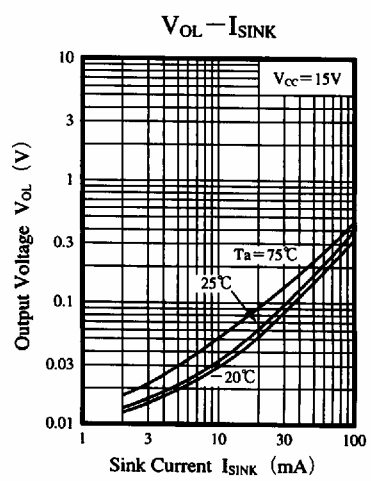
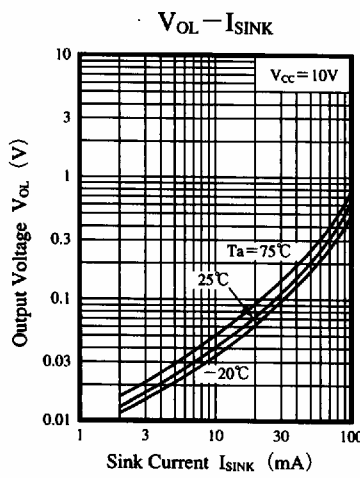
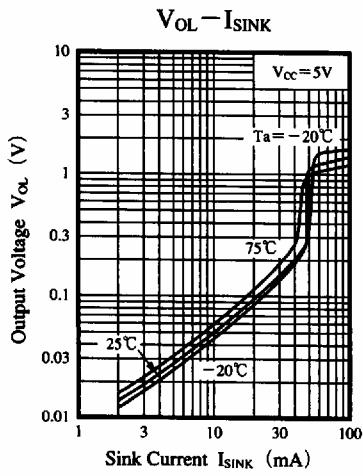
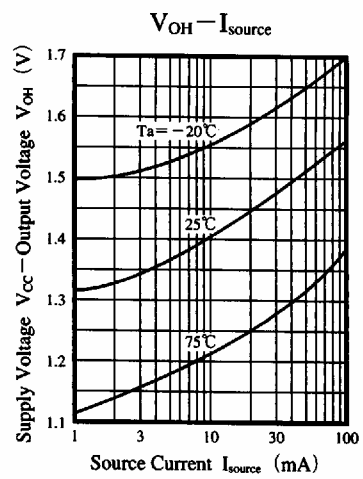
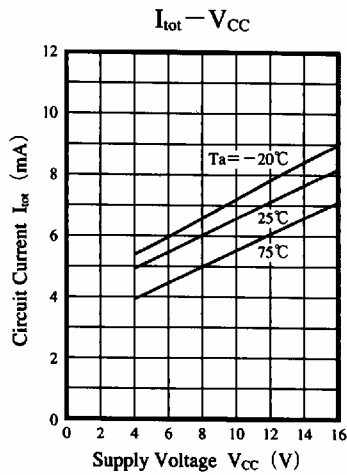
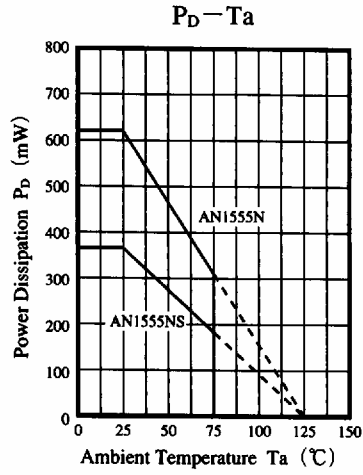
Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	18	V
Power dissipation	AN1555N	625	mW
	AN1555NS	361	
Operating ambient temperature	T _{opr}	-20 to +75	°C
Storage temperature	T _{stg}	-55 to +125	°C

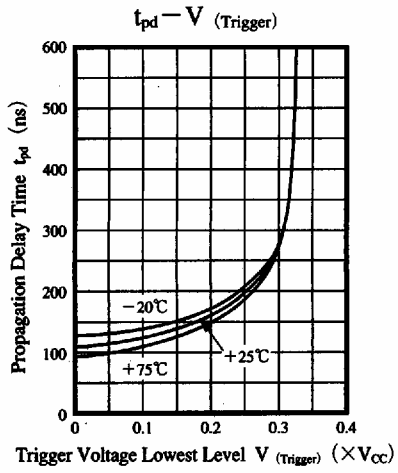
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Circuit current	I _{tot}	V _{CC} =5V, R _L =∞, Output : L	—	5	7	mA
		V _{CC} =15V, R _L =∞, Output : L	—	8	12	mA
Threshold voltage	V _t	V _{CC} =5 to 15V	—	$\frac{2}{3}V_{CC}$	—	V
Threshold current	I _t	V _{CC} =5 to 15V	—	0.03	0.3	μA
Trigger voltage	V _(Trigger)	V _{CC} =5 to 15V	—	$\frac{1}{3}V_{CC}$	—	V
Trigger current	I _(Trigger)	V _{CC} =5 to 15V	—	0.1	0.5	μA
Reset voltage	V _(Reset)	V _{CC} =5 to 15V	—	1.4	2.0	V
Reset current	I _(Reset)	V _{CC} =5 to 15V	—	0.05	0.2	μA
Control voltage	V _(Cont.)	V _{CC} =5V	2.6	3.33	4.0	V
		V _{CC} =15V	9.0	10.0	11.0	V
Output voltage "L" level	V _{OL}	V _{CC} =5V, I _{SINK} : 5mA	—	0.05	0.2	V
		V _{CC} =5V, I _{SINK} : 8mA	—	0.08	0.25	V
		V _{CC} =15V, I _{SINK} : 10mA	—	0.05	0.2	V
		V _{CC} =15V, I _{SINK} : 50mA	—	0.2	0.5	V
		V _{CC} =15V, I _{SINK} : 100mA	—	0.5	2	V
		V _{CC} =15V, I _{SINK} : 200mA	—	2.5	—	V
Output voltage "H" level	V _{OH}	V _{CC} =5V, I _{SOURCE} : 100mA	2.8	3.3	—	V
		V _{CC} =15V, I _{SOURCE} : 100mA	12.8	13.3	—	V
Initial time interval error	Δt _E	Unstable oscillation R _A , R _B =1 to 100kΩ C=0.1μF	—	1.0	—	%
Time interval temperature regulation	Δt _T		—	50	—	ppm/°C
Time interval supply voltage regulation	Δt _V		—	0.1	—	%/V
Rise time	t _r	V _{CC} =5 to 15V	—	100	—	ns
Fall time	t _f		—	100	—	ns

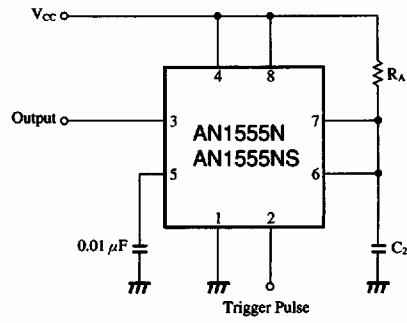
Note) Operating Supply Voltage Range : V_{CC(opr)} = 4.5 to 16V

■ Characteristics Curve





■ Application Circuit



- Parts and measuring apparatus
- R_A : Metal film resistor
- C₂ : Polyester capacitor
- Output : Universal counter load 1kΩ

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