

DESCRIPTION

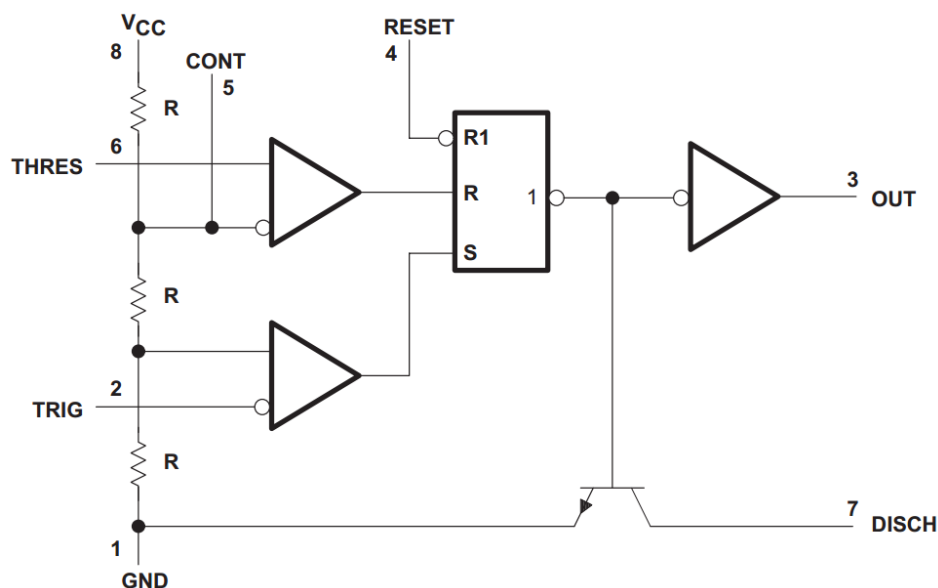
NE555DR-CN is a general purpose timer. It is an analog integrated circuit that combines analog signals with logic functions. It can generate precise time delays and oscillations. This timing circuit can be applied to many aspects such as electronic control, electronic detection and electronic alarm. For example: it can constitute an accurate timer, pulse generator, time delay generator, pulse width modulation, phase modulation and sawtooth voltage generator, etc. In the peripheral equipment of a microcomputer, it can be used to constitute a clock generator to generate the required clock pulse.

FEATURES

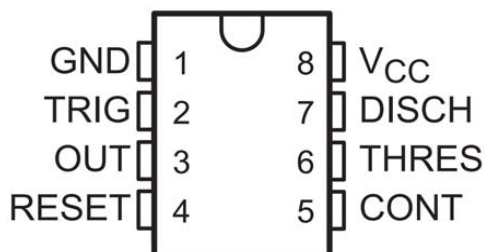
- The static current is small, the typical value is 2.7mA.
- The chip disable input can make the IC power down
- The static current is small when power is off, the typical value is 65uA.
- Can drive a variety of impedance speakers more than 8 Ω
- When using a 32 Ω load, the output power exceeds 250mW
- Low distortion 0.5% TYP.
- In the voice band, the gain can be adjusted from 0dB to 46dB
- Fewer peripheral components
- Package SOP8

Functional block diagram and pin description

1.1 Functional block diagram



1.2 Pin description



ELECTRICAL CHARACTERISTICS

2.1 Absolute maximum ratings over operating free-air temperature range

PARAMETER	SYMBOL	VALUE	UNITS
Supply voltage	VCC	18	V
Power consumption (DIP)	PD	600	mW
Operating free-air temperature range	Tamb	0 ~ 70	℃
Storage temperature range	Tstg	-65 ~ 150	℃

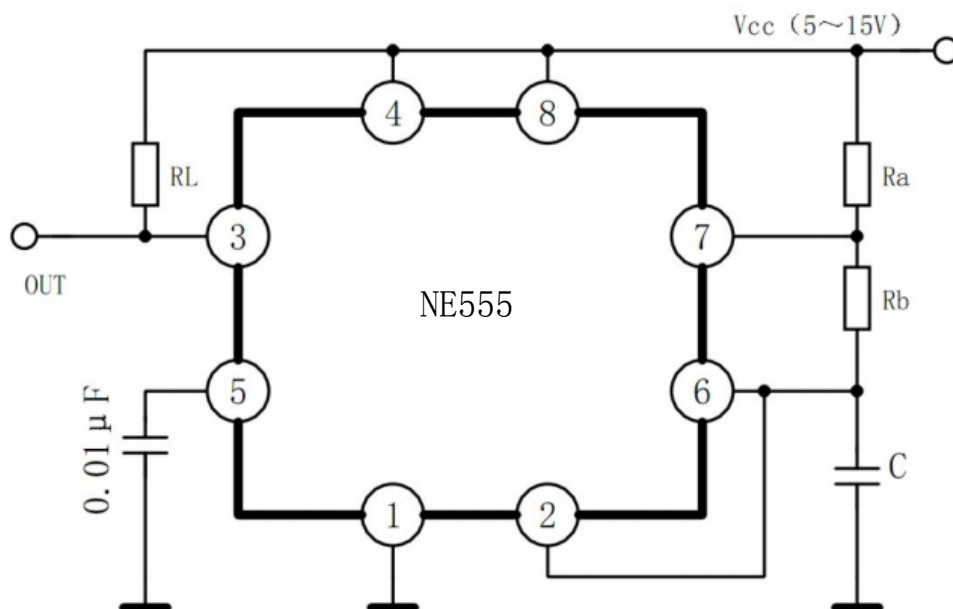
2.2 Electrical characteristics , Tamb= 25℃ (unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	VALUE			UNITS
			MIN	TYP	MAX	
Supply current	ICCQ	VCC=5V RL = ∞		3	6	mA
		VCC=15V RL= ∞		10	15	
Supply voltage	VCC		4.5		16	V
THRES voltage level	VTH			0.667*Vcc		V
THRES current	ITH			0.1	0.25	uA
TRIG voltage level	VTR	VCC=15V		5		V
		VCC=5V		1.67		
TRIG current	ITR			0.5	2	uA
RESET voltage level	VR		0.4	0.5	1	V
RESET current	IR			0.1	0.4	mA
CONT voltage	VCON	VCC=15V	9	10	11	V
		VCC=5V	2.6	3.33	4	
DISCH switch off-state current	I7 (IEAK)	High-level output		20	100	nA
DISCH saturation pressure drop	V7 (SAT)	Low-level output VCC 15V I7 = 15mA		180		mV

		Low-level output VCC= 4.5V I7 = 4.5mA		80	200	mV
High-level output voltage	VOH	VCC= 15V IS = 200mA		12.5		V
		VCC= 15V IS = 100mA	12.75	13.3		
		VCC = 5V IS = 100mA	2.75	3.3		
Low-level output voltage	VOL	VCC=15V ISINK=10mA		0.1	0.25	V
		VCC=15V ISINK=50mA		0.4	0.75	
		VCC=15V ISINK=100mA		2	2.5	
		VCC=15V ISINK=200mA		2.5		
		VCC=5V ISINK=5mA		0.25	0.35	
Output rise time	tr			100		nS
Output fall time	tf			100		
Initial accuracy	ΔtE	Monostable RA. RB=1~100k C=0.1 uF VCC= 5V(15V)		1		%
Rate of change with temperature drift	ΔtT			50		ppm/°C
Rate of change with voltage drift	ΔtV			0.1		%/V
Accuracy within operating temperature range	$\Delta tOPr$			1.5		%
Initial accuracy	$\Delta tE1$	Astable RA. RB=1~100k C=0.1 uF Vcc= 5V(15V)		2.25		%
Rate of change with temperature drift	$\Delta tT1$			150		ppm/°C
Rate of change with voltage drift	$\Delta tV1$			0.3		%/V
Accuracy within operating temperature range	$\Delta tOPr1$			3		%

APPLICATION CIRCUIT AND APPLICATION INSTRUCTIONS

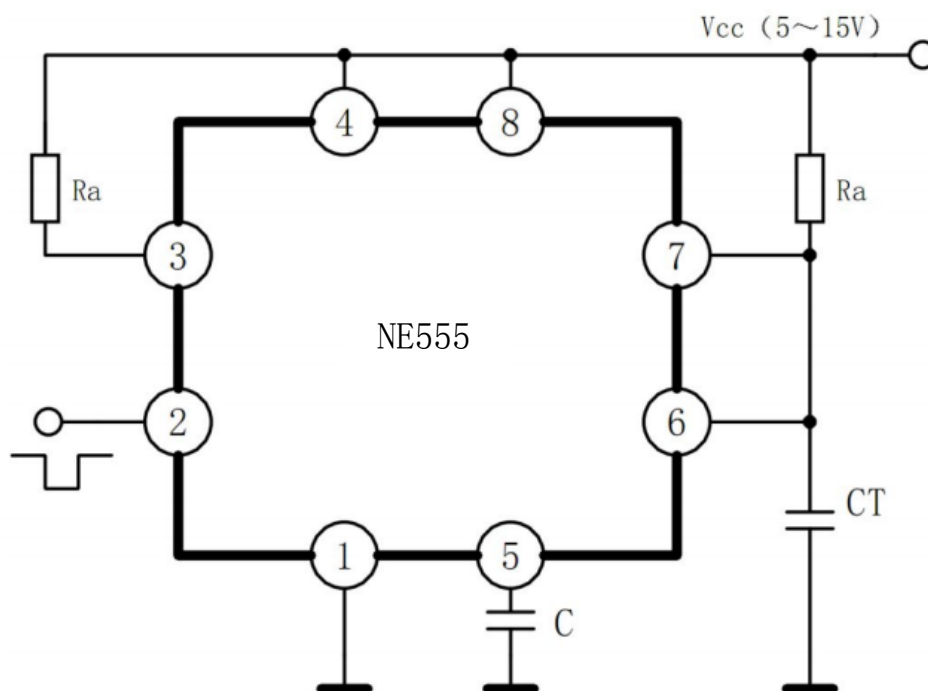
3.1 Oscillator application circuit



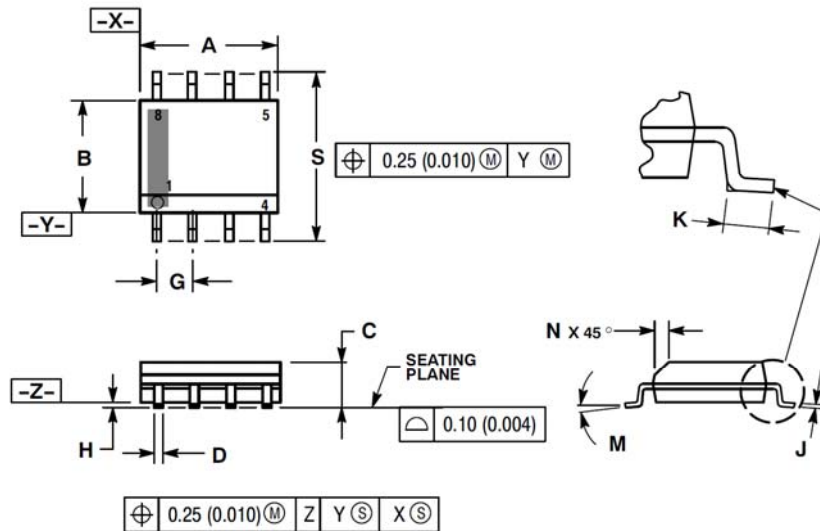
Oscillation period: $T = 0.693 (R_A + 2R_B) C$

Duty: $D = R_B / (R_A + 2R_B)$

3.2 Monostable application circuit



MECHANICAL DIMENSIONS



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.
6. 751-01 THRU 751-06 ARE OBSOLETE. NEW STANDARD IS 751-07.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

SOP8

NOTICE

The information presented in this document is for reference only. Involving product optimization and productivity improvement, ChipNobo reserves the right to adjust product indicators and upgrade some technical parameters. ChipNobo is entitled to be exempted from liability for any delay or non-delivery of the information disclosure process that occurs.

本文件中提供的信息仅供参考。涉及产品优化和生产效率改善，ChipNobo 有权调整产品指标和部分技术参数的升级，所出现信息披露过程存在延后或者不能送达的情形，ChipNobo 有获免责权。

The product listed herein is designed to be used with residential and commercial equipment, and do not support sensitive items and specialized equipment in areas where sanctions do exist. ChipNobo Co., Ltd or anyone on its behalf, assumes no responsibility or liability for any damages resulting from improper use.

此处列出的产品旨在民用和商业设备上使用，不支持确有制裁地区的敏感项目和特殊设备，ChipNobo 有限公司或其代表，对因不当使用而造成的任何损害不承担任何责任。

For additional information, please visit our website <http://www.chipnobo.com>, or consult your nearest Chipnobo sales office for further assistance.

欲了解更多信息，请访问我们的网站 <http://www.chipnobo.com>，或咨询离您最近的 Chipnobo 销售办事处以获得进一步帮助。