

Timing integrated circuits

Model:SG0300

■ Descriptions

SG0300 is a timing integrated circuit designed with CMOS process, and the timing time can be customized according to customer requirements from 1 second to 999 hours.

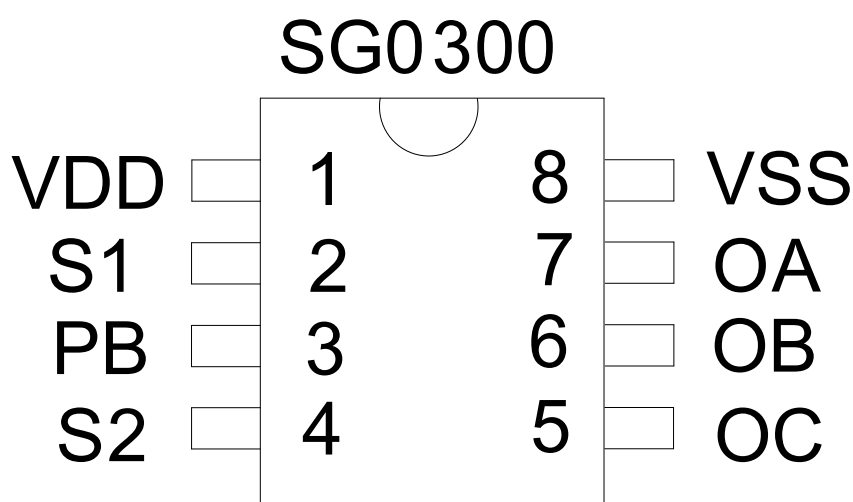
■ Features

- CMOS process manufacturing, low power consumption
- Operating Voltage:2.1—5.5V
- Low operating current
- Built-in oscillation, built-in reset, few external components

■ Applications:

- Automatic recovery when power failure and automatic reset at regular intervals
- Timed power on and timed power off
- Low-frequency square wave generator
- Toy

■ PIN diagram



■ PIN Descriptions

No.	Name	Input/Output	Descriptions
1	VDD	–	Power supply input pin, 2.1V---5.5V
2	S1	Input	Connect VSS=positive output, connect VDD=negative output, if floating=VDD
3	PB	Input	Manually trigger the output. In the cyclic output mode, the output is output once immediately after pressing the button, the timer is reset, and the timing is restarted; In the single timing output mode, if the key is pressed before the single output, it is output once immediately, the timer is reset, and it will be output again at the end of the timing, if the key is pressed after the single output, except for the output immediately when the key is pressed, there will be no more timing output because the timer has stopped. Float or connect high when not in use.
4	S2	Input	Connect VSS=single timing output, connect VDD=cycle timing output selection, this port is not allowed to float.
5	OC	Output	C output, 0.5 sec high/0.5 sec low square wave output, floating when not in use.
6	OB	Output	B output, timer level output, floating when not in use.
7	OA	Output	A output, timed pulse output, floating when not in use.
8	VSS	–	Power ground

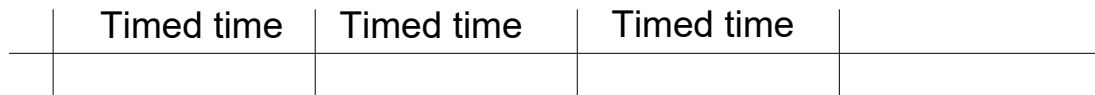
■ **Function timing diagram**

● **Timing diagram of the single-timed positive output mode**

S1 (Connect to VSS)

S2 (Connect to VSS)

VDD



OA Output Output pulse width = 0.5 seconds

OB Output



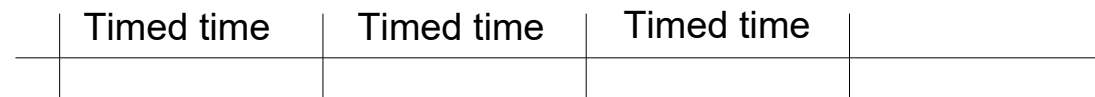
OC Output 0.5 sec high, output 0.5 sec low, cycle

● **Timing diagram of a single timed negative output mode**

S1 (Connect to VDD)

S2 (Connect to VSS)

VDD



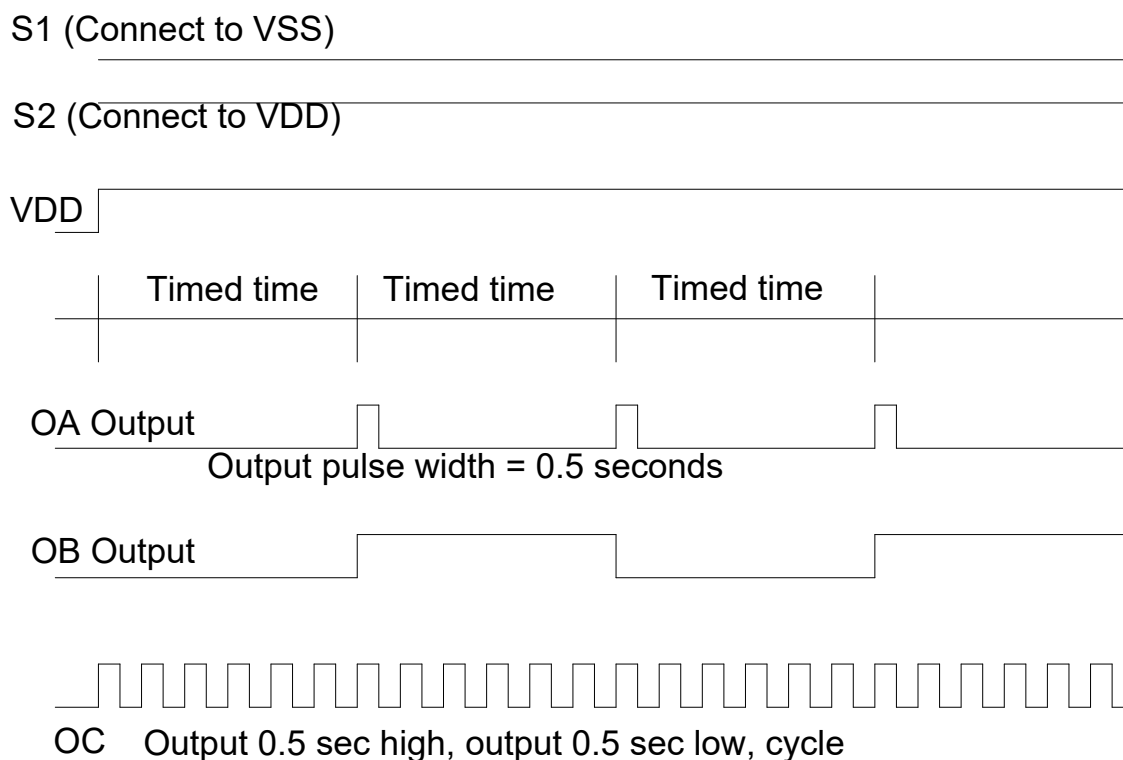
OA Output Output pulse width = 0.5 seconds

OB Output

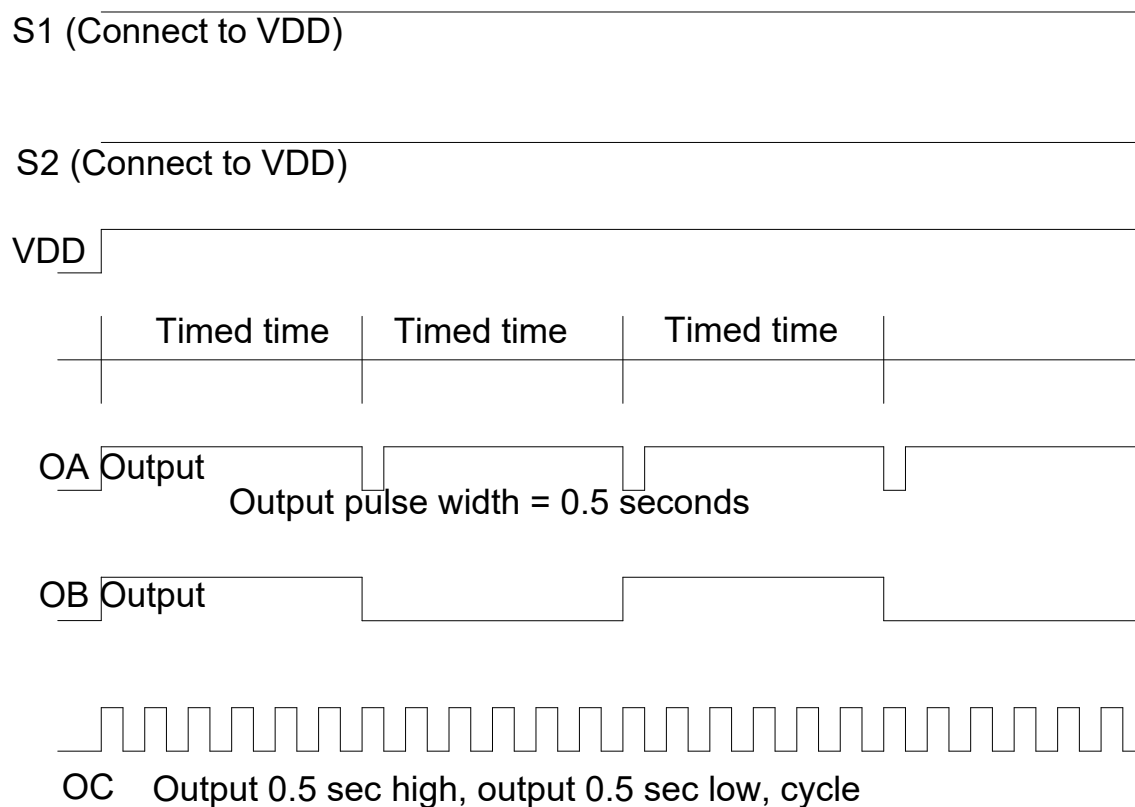


OC Output 0.5 sec high, output 0.5 sec low, cycle

● **Timing diagram of the cyclic timing positive output mode**



● **Timing diagram of cyclic timed negative output mode**



■ Characteristic parameter:

● Absolute Maximum Ratings:

Parameter	Symbol	Parameter range	Unit
Operating Voltage	VDD	-0.3 ~ 5.5	V
Input Voltage	VI	VSS-0.3 to VDD+0.3	V
Lead Soldering Temperature*1	Tsol	260	°C
Operating Temperature	Topr	0 ~ 70	°C
Storage Temperature	Tstg	-40 ~ 125	°C

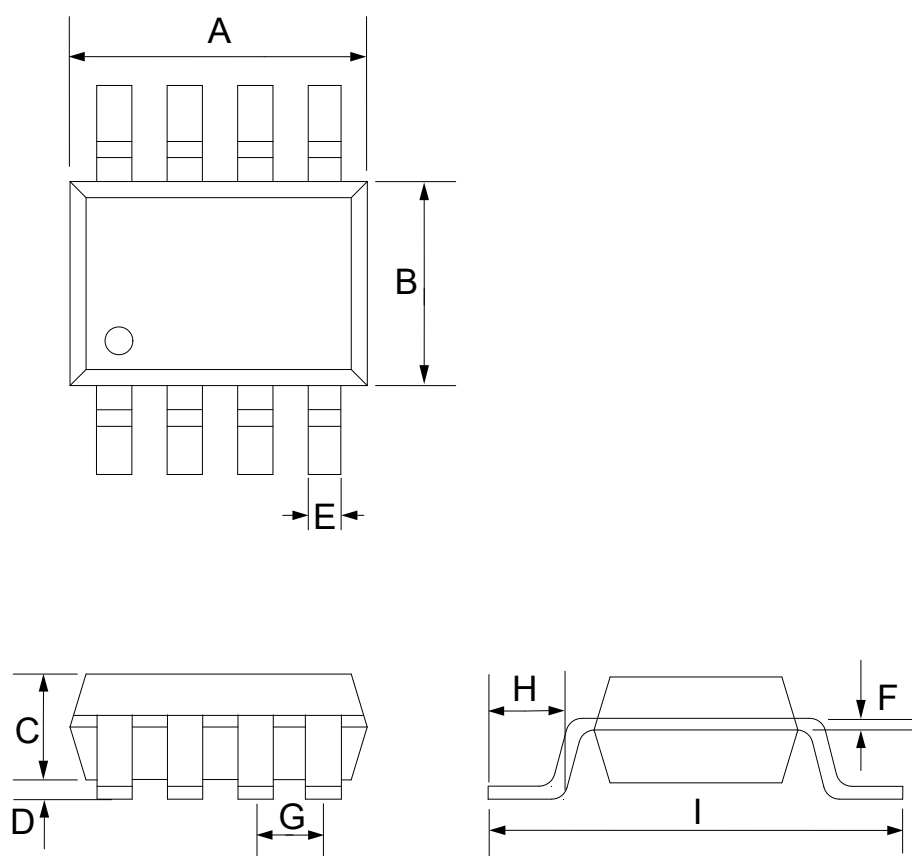
Notes:*1:Soldering time \leq 5 seconds.

● Electronic Characteristics (Unless otherwise specified, Ta=25°C, VDD=5.0V)

Parameter	Symbol	MIN.	Typ.	MAX.	Unit	Note
Operating Voltage	VDD	2.1	3.0	5.0	V	
Operating current	Iop	--	30	50	uA	VDD=3.0V, No load
Operating current	Iop	--	60	100	uA	VDD=5.0V, No load
Output drive current VOH=0.9VDD	IOH	--	1.5	--	mA	VDD=3.0V
		--	4.2	--		VDD=5.0V
Output drive current VOL=0.1VDD	IOL	--	9.5	--	mA	VDD=3.0V
		--	20	--		VDD=5.0V
Input high level voltage	VIH	0.8VDD	--	VDD	V	
Input low level voltage	VIL	VSS	--	0.2VDD	V	
Timing error		95	100	105	%	

■ PACKAGE DIMENSION:

● 8-PIN SOP 150mil



SYMBOLS	MIN	TYP.	MAX	MIN	TYP.	MAX
	Dimensions (inches)			Dimensions (mm)		
A	0.355	0.365	0.400	9.02	9.27	10.16
B	0.240	0.250	0.280	6.10	6.35	7.11
C	0.115	0.130	0.195	2.92	3.30	4.95
D	0.115	0.130	0.150	2.92	3.30	3.81
E	0.014	0.018	0.022	0.36	0.46	0.56
F	0.045	0.060	0.070	1.14	1.52	1.78
G	--	0.100	--	--	2.54	--
H	0.300	0.310	0.325	7.26	7.87	8.26
I	--	--	0.43	--	--	10.92

■ Order Identification:**SG0300-xxxY-zV**

SG0300---Product category identification

xxxY----Timer time indicator, xxx=001---999 Y: S(second) M (minute) H (hour)

zV---Operating voltage identification, 3V or 5V