

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

NE556DR-MS

产品手册

产品简介

NE556DR-MS 内部集成了两个 556通用时基电路。这两个通用时基电路共用一个电源(VCC)和电源地(GND)，其它线路和管脚都各自独立。每个通用时基电路由阈值比较器、触发比较器、RS 触发器、复位输入、放电 和触发输入六部分电路构成。每个通用时基电路都可通过外接电阻电容实现精确的定时或产生振荡波形。

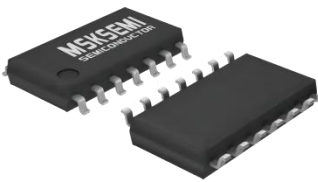
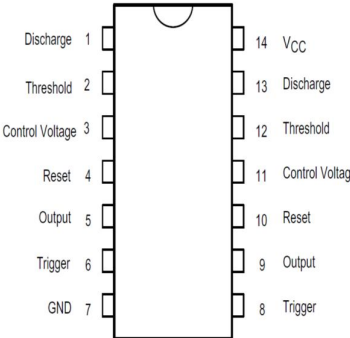
产品特点

- 双路通用时基电路，相互独立运行
- 输出电流大，可达 200mA
- 定时时间可实现微秒级到小时级控制
- 温度稳定性好
- 可实现非稳态和单稳态工作模式

产品用途

- 精确定时
- 脉冲发生器，音频脉冲发生器
- 工业控制
- 脉冲整形、脉宽调制，脉冲相位调制
- 延时发生器，分频器
- 交通信号灯控制

封装形式和管脚功能定义

封装图	管脚定义
 <p>SOP-14</p>	 <p>Discharge 1 14 VCC Threshold 2 13 Discharge Control Voltage 3 12 Threshold Reset 4 11 Control Voltage Output 5 10 Reset Trigger 6 9 Output GND 7 8 Trigger</p>

管脚序号	管脚定义	管脚功能描述
1	Discharge	放电
2	Threshold	阈值
3	Control Voltage	控制电压
4	Reset	复位
5	Output	输出
6	Trigger	触发
7	GND	电源地
8	Trigger	触发
9	Output	输出
10	Reset	复位
11	Control Voltage	控制电压
12	Threshold	阈值
13	Discharge	放电
14	VCC	电源正

订单信息

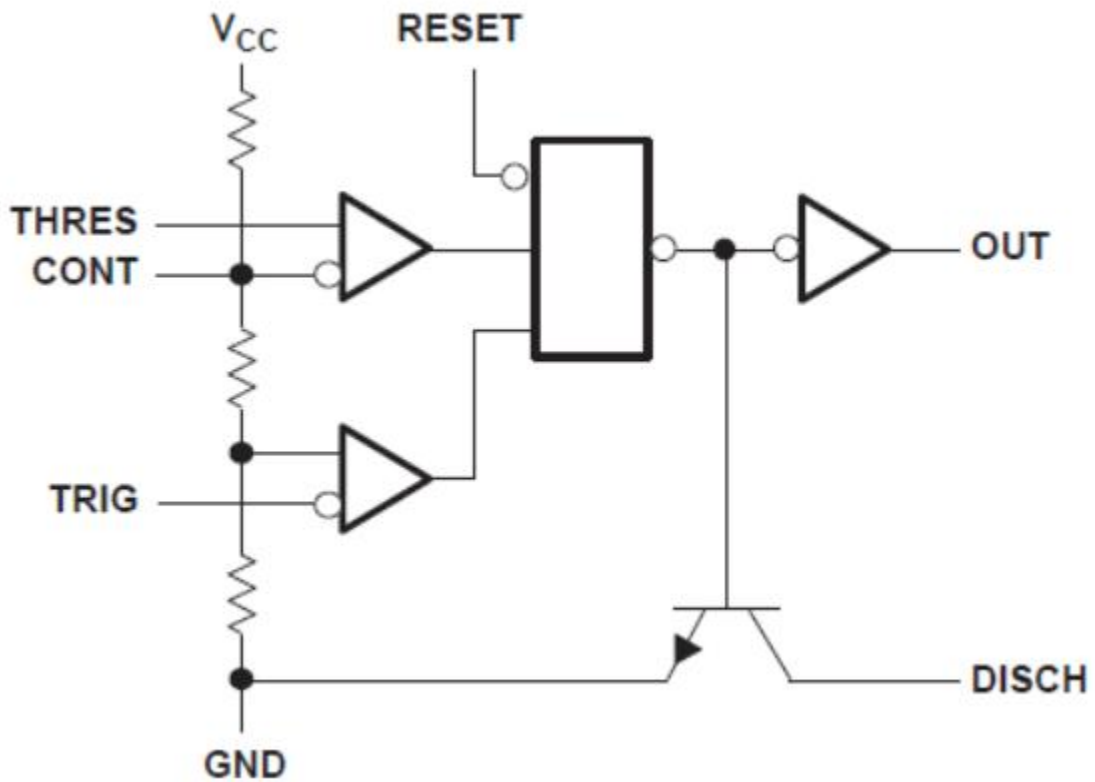
P/N	PKG	QTY
NE556DR-MS	SOP-14	2500PCS

极限参数

项目	符号	极限值 ⁽¹⁾	单位
电源电压	VCC	18	V
耗散功率	PD	400	mW
工作温度	TA	0~70	°C
储存温度	TS	-65~150	°C
焊接温度	TW	260, 10s	°C

注：(1) 极限参数是指无论在什么条件下都不能超过的极限值。如果超过此极限值，将有可能造成产品劣化等物理性损伤；
同时在接近极限参数下，不能保证芯片可以正常工作。

等效原理图 (单路时基电路等效原理图)



功能逻辑

REST	TRIG	THRES	OUT	DISCH
L	X	X	L	ON
H	<1/3VDD	X	H	OFF
H	>1/3VDD	>2/3VDD	L	ON
H	>1/3VDD	<2/3VDD	保持原状态	保持原状态

电学特性 ($T_A=25^\circ\text{C}$, 除非特别指定)

测试项目	符号	测试条件	最小值	典型值	最大值	单位
工作电压	V_{CC}		4.5		16	V
工作电流	I_{CC}	$V_{CC}=5V, V_{OUT}=H, R_L=\infty$		5	10	mA
		$V_{CC}=15V, V_{OUT}=H, R_L=\infty$		11	20	mA
		$V_{CC}=15V, V_{OUT}=L, R_L=\infty$		17	30	mA
控制电压	V_{Cont}	$V_{CC}=15V$	8	10	11	V
		$V_{CC}=5V$	2.6	3.3	4	V
阈值电压	V_{TH}	$V_{CC}=15V$	8.8	10	11.2	V
		$V_{CC}=5V$	2.4	3.3	4.2	V
阈值电流	I_{TH}	$V_{CC}=15V, V_{TH}=11.2V$			250	nA
触发电压	V_{TRIG}	$V_{CC}=15V$	4.5	5.0	5.6	V
		$V_{CC}=5V$	1.1	1.67	2.2	V
触发电流	I_{TRIG}	$V_{CC}=15V, V_{TRIG}=0V$			500	nA
复位电压	V_{RESET}	$V_{CC}=15V$		0.7	1.5	V
复位电流	I_{RESET}	$V_{RESET}=0.4V, V_{CC}=15V$	0.4	0.3	10	uA
		$V_{RESET}=0V, V_{CC}=15V$		0.2	1.0	mA
放电管漏电流	$I_{DIS(OFF)}$	$V_{CC}=15V, V_{DISH}=15V$		10		nA
放电管导通压降	V_{DISL}	$V_{CC}=15V, I_{DISL}=15mA$		0.15	0.5	V
输出低电压	V_{OL}	$V_{CC}=15V$	$I_{OL}=5mA$		0.05	V
			$I_{OL}=50mA$		0.4	
			$I_{OL}=100mA$		1.4	
			$I_{OL}=200mA$		2.7	
		$V_{CC}=5V$	$I_{OL}=5mA$		0.08	
			$I_{OL}=8mA$		0.15	
输出高电压	V_{OH}	$V_{CC}=15V$	$I_{OH}=-100mA$		13.3	V
			$I_{OH}=-200mA$		12.0	
		$V_{CC}=5V$	$I_{OH}=-100mA$		3.3	
输出上升沿时间	t_r	$V_{CC}=15V, C_L=15pF$		100		ns

电学特性($T_A=25^{\circ}\text{C}$, 除非特别指定)

测试项目		符号	测试条件	最小值	典型值	最大值	单位
输出下降沿时间		t_F	$V_{CC}=15\text{V}, C_L=15\text{pF}$		100		ns
定时初始间隔误差 ⁽¹⁾	单稳态 ⁽²⁾	t_{mer}	$V_{CC}=15\text{V}$		1		%
	非稳态 ⁽³⁾	t_{aer}	$V_{CC}=15\text{V}$		2		
	Timer1-timer2 ⁽⁴⁾	t_{d12er}			± 1		
定时电压变化灵敏度	单稳态电路	t_{mv}	$V_{CC}=5\text{V to }15\text{V}$		0.1		%/V
	非稳态电路	t_{av}	$V_{CC}=5\text{V to }15\text{V}$		0.3		
	Timer1-timer 2	t_{d12v}			± 0.2		
定时温度变化灵敏度	单稳态电路	t_{mt}	$V_{CC}=15\text{V}, T_A = 0 \text{ to } 60^{\circ}\text{C}$		50		ppm/ $^{\circ}\text{C}$
	非稳态电路	t_{at}	$V_{CC}=15\text{V}, T_A = 0 \text{ to } 60^{\circ}\text{C}$		150		
	Timer1-timer 2	t_{d12t}			± 10		

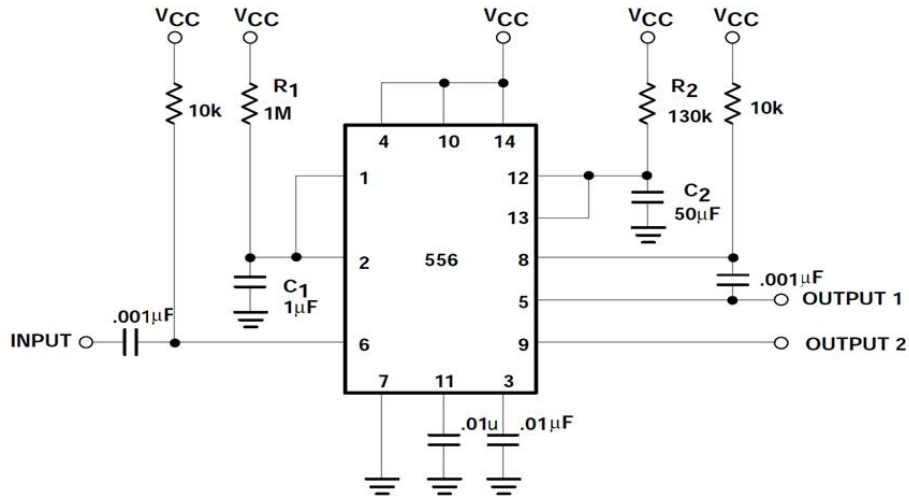
注：(1) 时间间隔误差定义为测量值与每个过程运行的随机样本平均值之间的差异；

(2) 见典型应用图中的单稳态电路, $R_A=2\text{K to }100\text{K}$, $C=0.1\mu\text{F}$; (3) 见典型应用图中的非稳态电路, $R_A=R_B=1\text{K to }100\text{K}$, $C=0.1\mu\text{F}$;

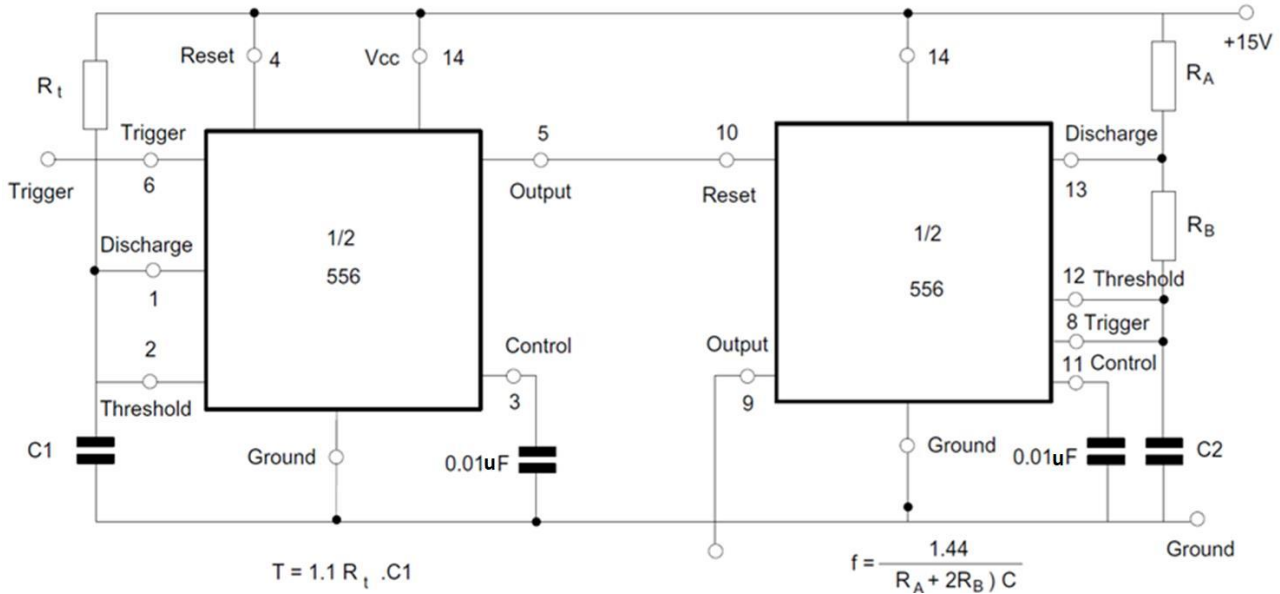
(4) Timer1-timer2, 指 NE556 两组定时器定时精度之间的差值。

典型应用线路

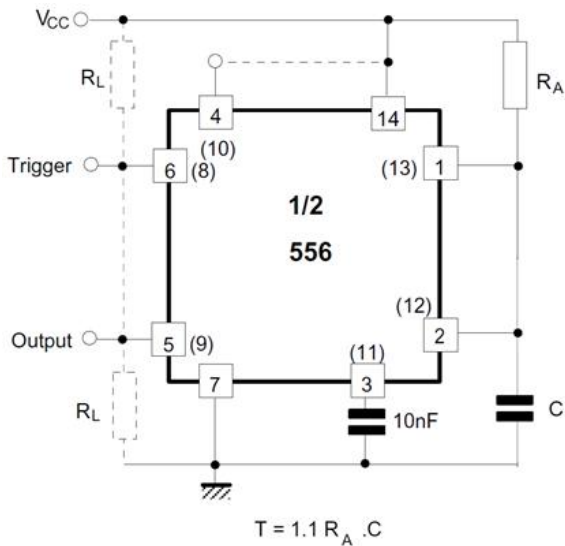
1、双计时器电路



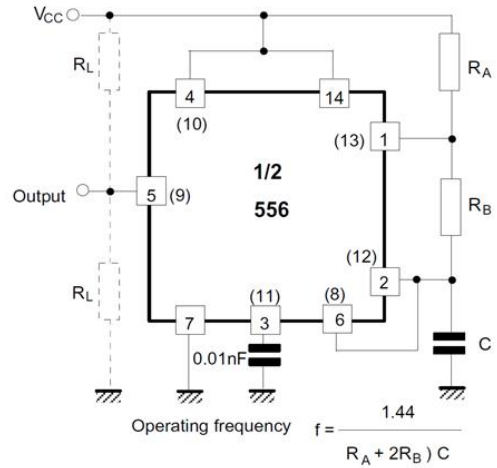
2、音频脉冲发生器



3、单稳态电路



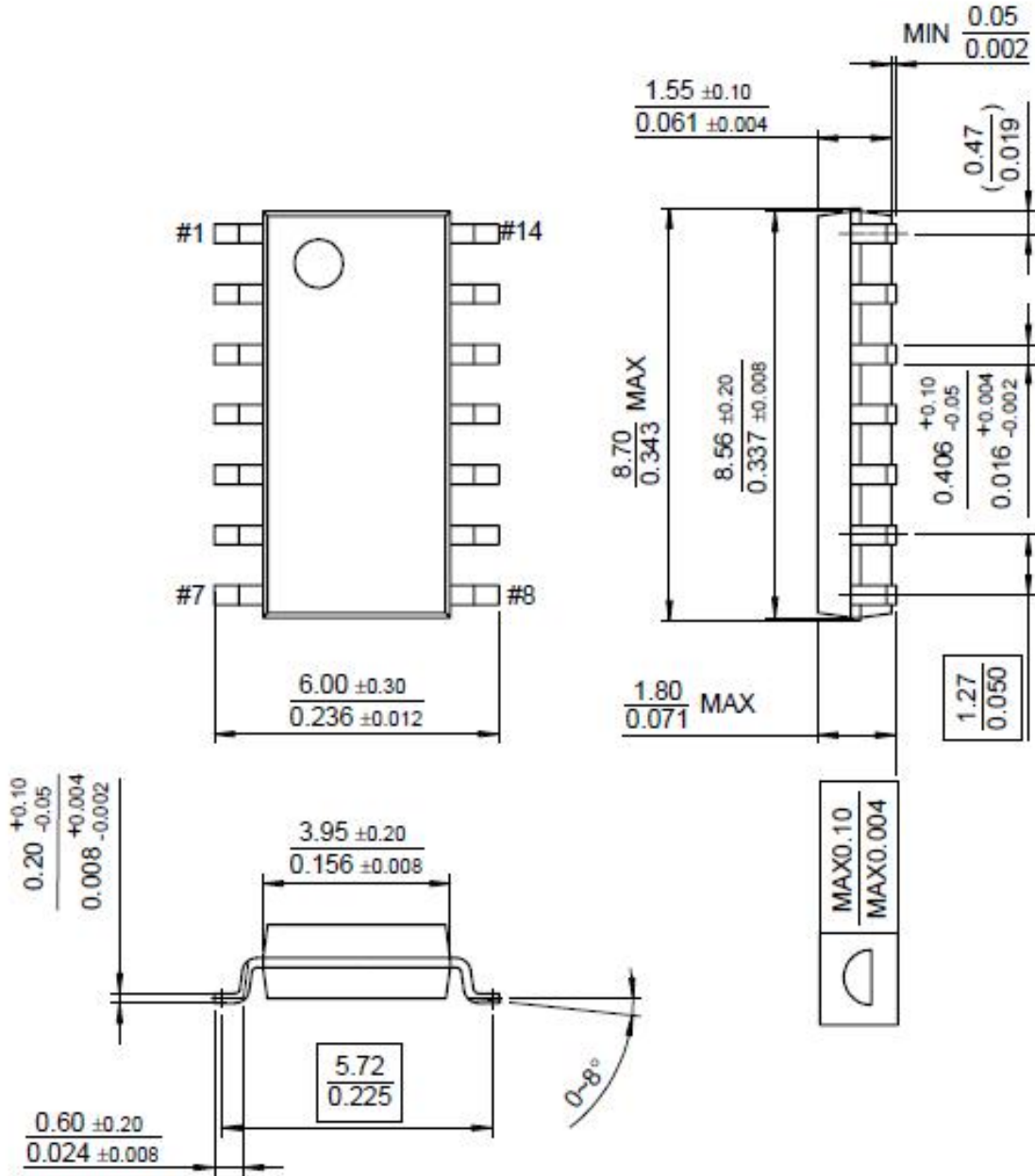
4、非稳态电路



封装信息 (封装信息仅做参考,具体以订货为准)

单位: 毫米 / 英寸

SOP-14



Attention

- Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.
- MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all MSKSEMI Semiconductor products described or contained herein.
- Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- MSKSEMI Semiconductor strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all MSKSEMI Semiconductor products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the MSKSEMI Semiconductor product that you intend to use.

单击下面可查看定价，库存，交付和生命周期等信息

[>>MSKSEMI\(美森科\)](#)