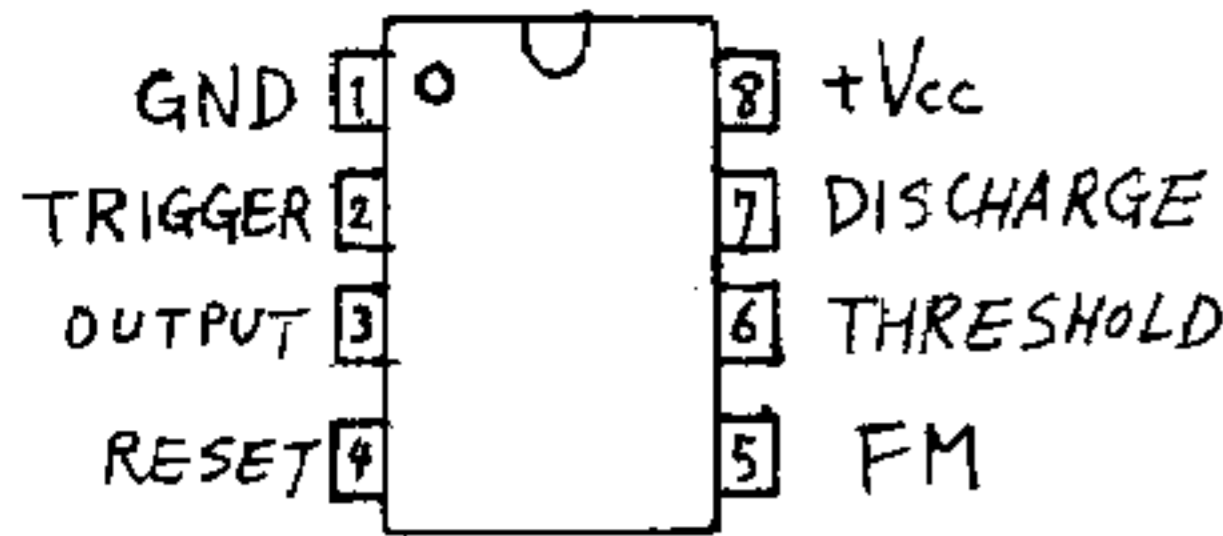


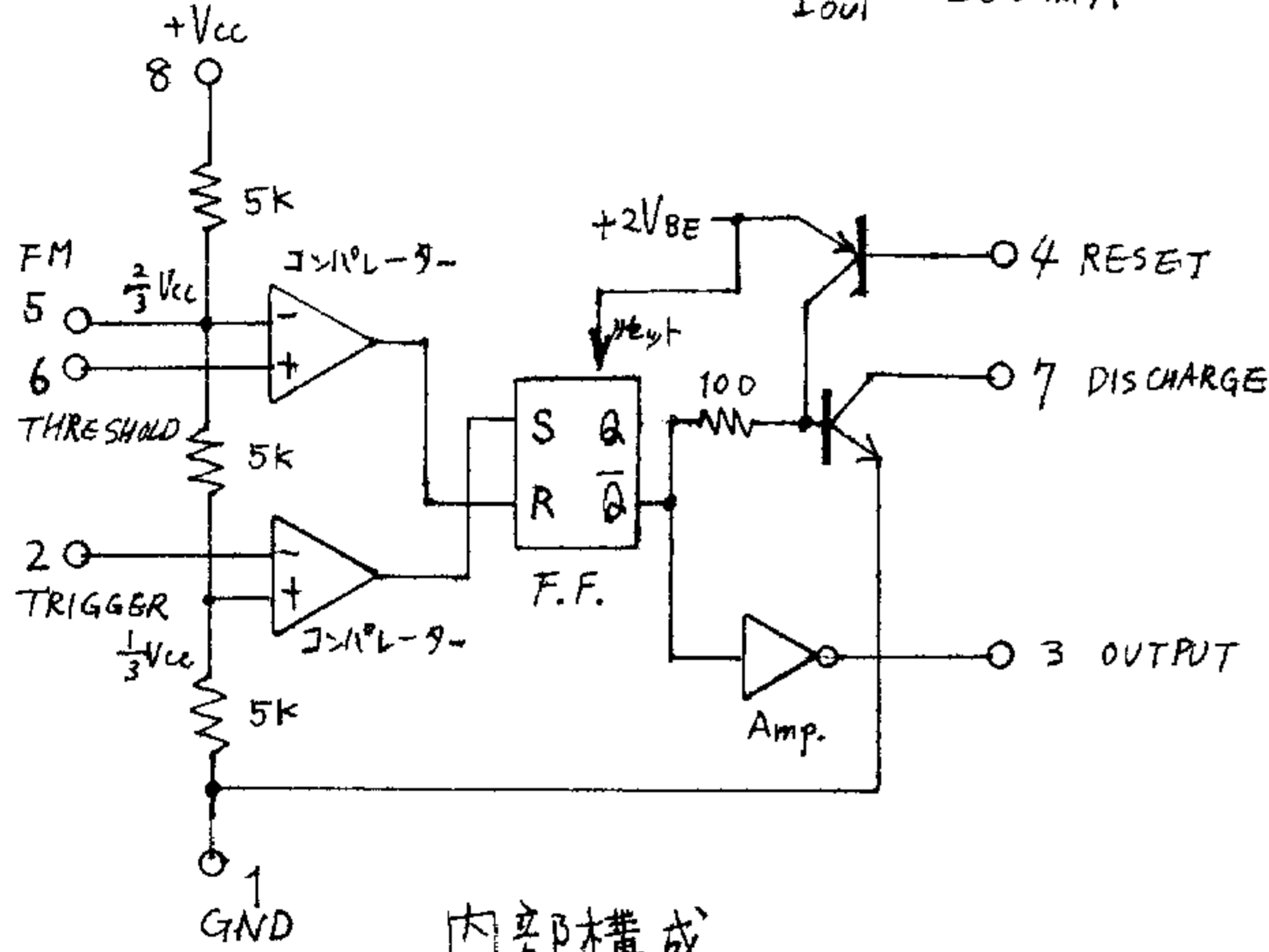
TIMER 555 / 556

555 (DIP)

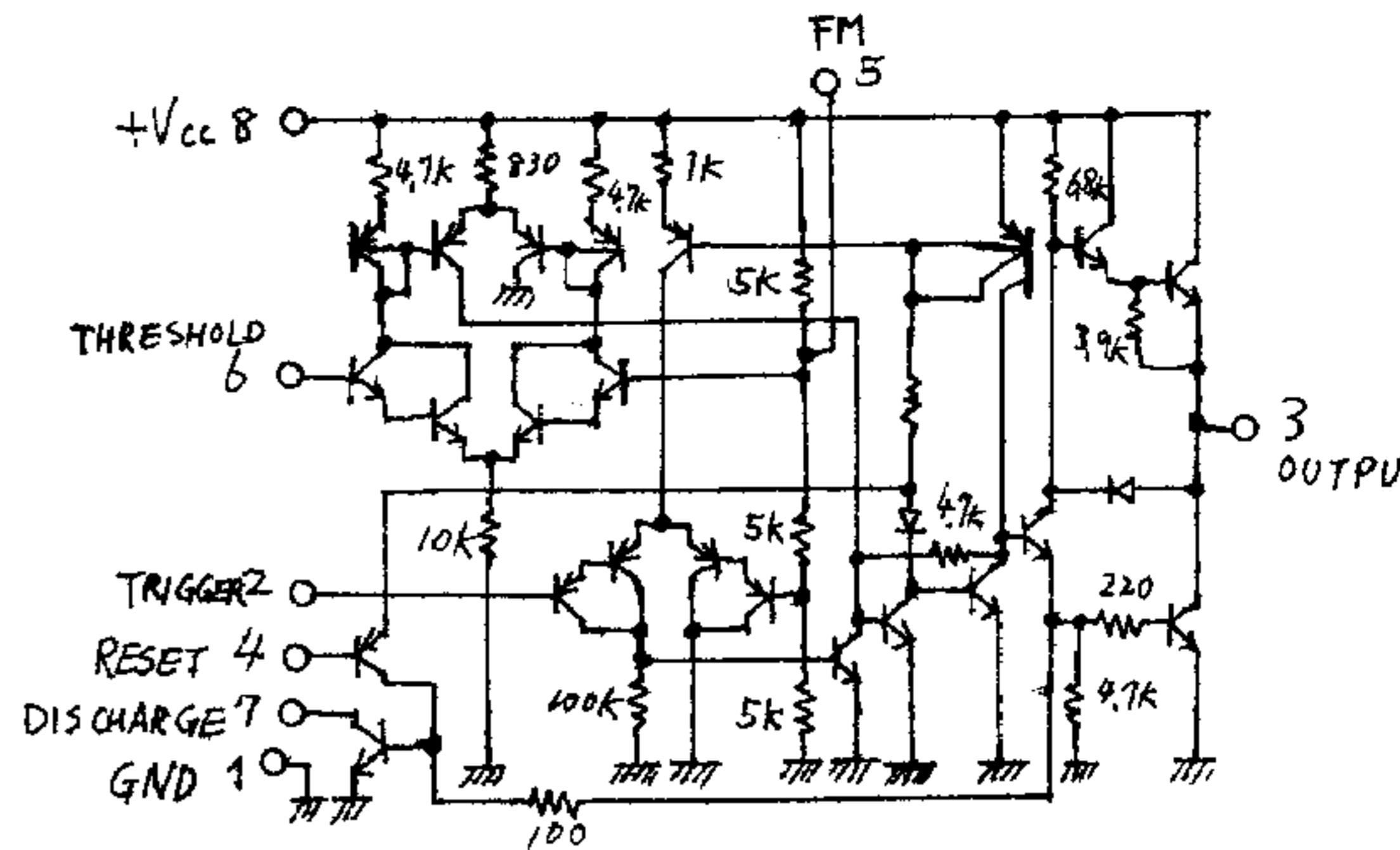


最大定格
 $+V_{cc\ max} +18V$
 $P_D 600mW$
 $T_{opr} 0^{\circ}\sim 70^{\circ}C$ (NE555)
 (使用温度) $-55^{\circ}\sim +125^{\circ}C$ (SE555)
 $I_{out} 200mA$

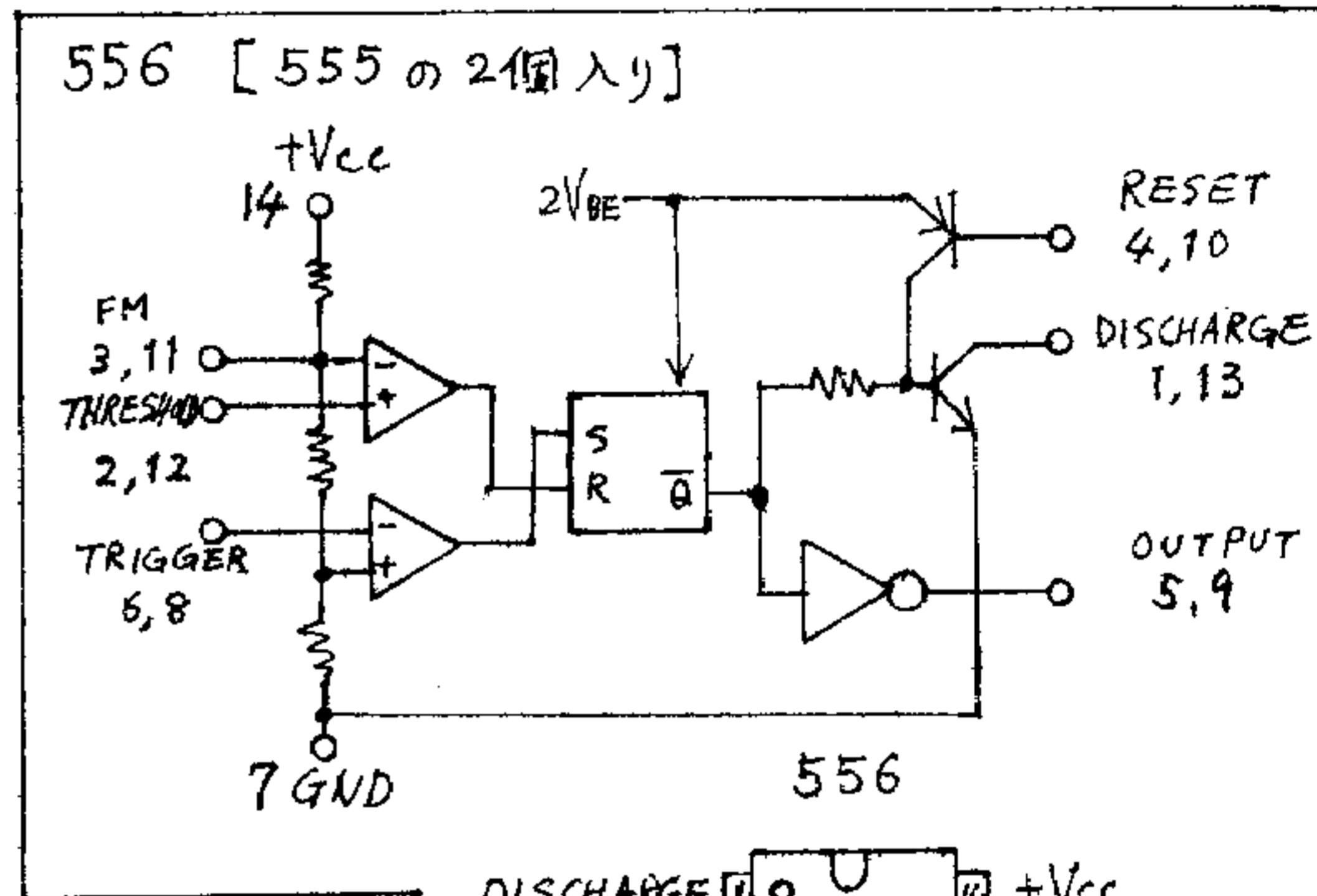
ピン接続



内部構成

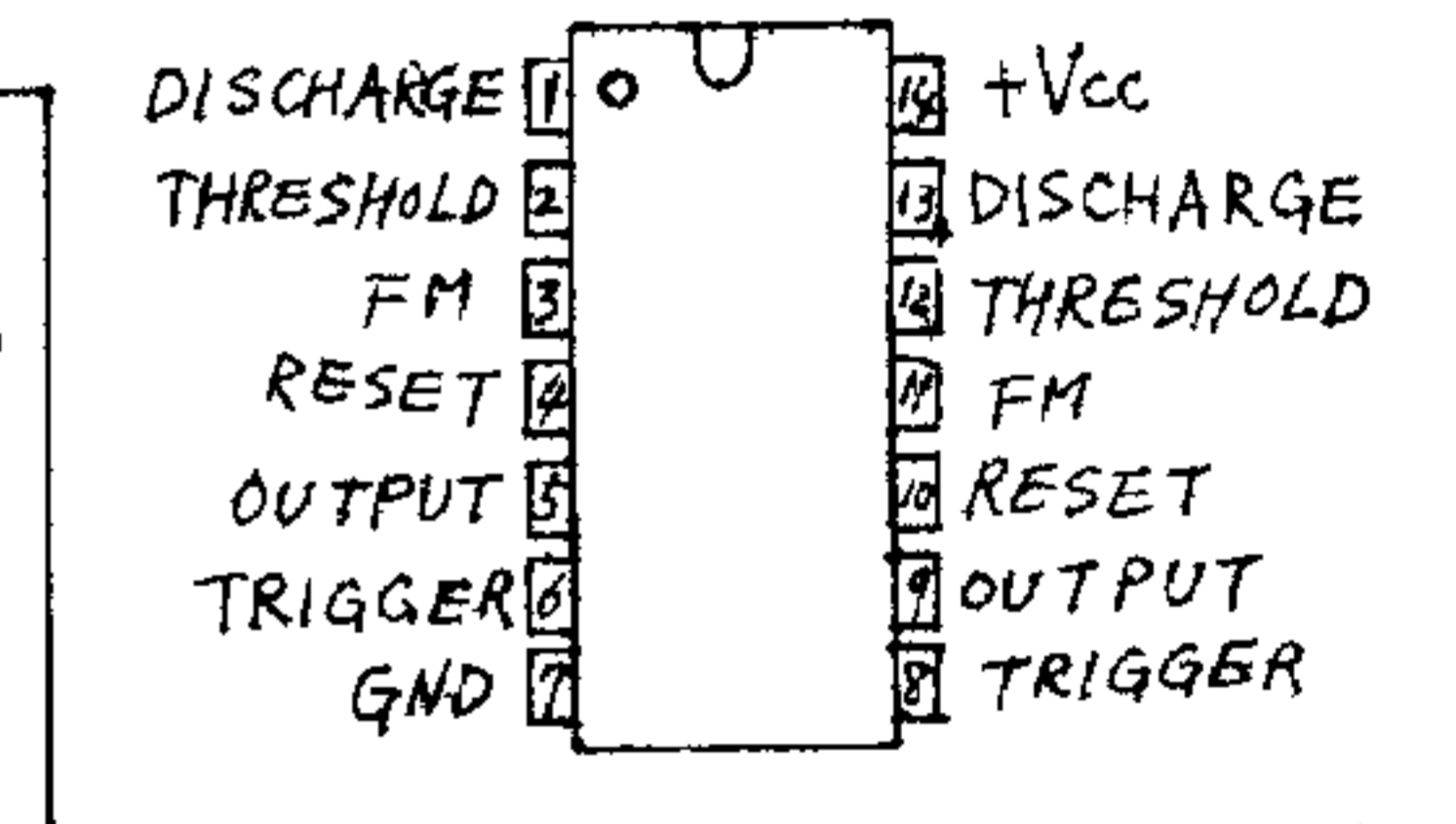


等価回路



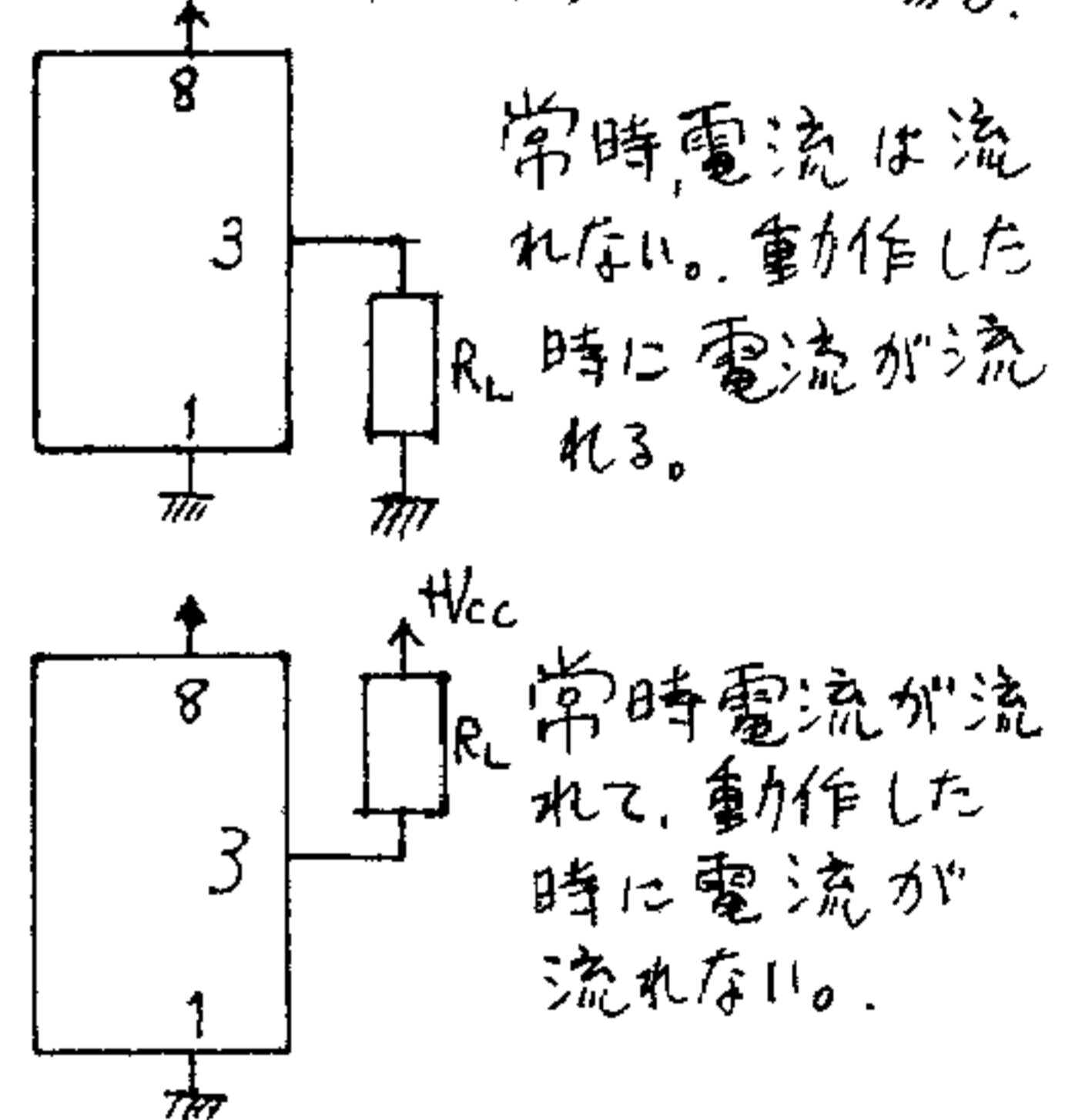
ELECTRICAL CHARACTERISTICS $T_A = 25^{\circ}C$, $V_{cc} = +5V$ to $+15V$ unless otherwise specified

PARAMETER	TEST CONDITIONS	SE555			NE555			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
Supply Voltage		4.5		18	4.5		16	V
Supply Current	$V_{cc} = 5V, R_L = \infty$ $V_{cc} = 15V, R_L = \infty$ LOW state, Note 1		3	5		3	6	mA
			10	12		10	15	mA
Timing Error	$R_A, R_B = 1k\Omega$ to $100k\Omega$ $C = 0.1\mu F$ Note 2		0.5	2		1		%
Initial Accuracy			30	100		50		ppm/ $^{\circ}C$
Drift with Temperature			0.05	0.2		0.1		%/Vdt
Drift with Supply Voltage			2/3			2/3		$\times V_{cc}$
Threshold Voltage	$V_{cc} = 15V$	4.8	5	5.2		5		V
Trigger Voltage	$V_{cc} = 5V$	1.45	1.67	1.9		1.67		V
Trigger Current			0.5			0.5		μA
Reset Voltage		0.4	0.7	1.0	0.4	0.7	1.0	V
Reset Current			0.1			0.1		mA
Threshold Current	Note 3		0.1	0.25		0.1	0.25	μA
Control Voltage Level	$V_{cc} = 15V$	9.6	10	10.4	9.0	10	11	V
	$V_{cc} = 5V$	2.9	3.33	3.8	2.6	3.33	4	V
Output Voltage Drop (low)	$V_{cc} = 15V$ $I_{sink} = 10mA$		0.1	0.15		0.1	0.25	V
	$I_{sink} = 50mA$		0.4	0.5		0.4	0.75	V
	$I_{sink} = 100mA$		2.0	2.2		2.0	2.5	V
	$I_{sink} = 200mA$		2.5			2.5		V
	$V_{cc} = 5V$ $I_{sink} = 8mA$		0.1	0.25				V
	$I_{sink} = 5mA$					0.25	0.35	V
Output Voltage Drop (high)	$I_{source} = 200mA$ $V_{cc} = 15V$		12.5			12.5		V
	$I_{source} = 100mA$ $V_{cc} = 15V$	13.0	13.3		12.75	13.3		V
	$V_{cc} = 5V$	3.0	3.3		2.75	3.3		V
Rise Time of Output			100			100		nS
Fail Time of Output			100			100		nS



負荷のつなぎ方

ワンショットマルチの場合



常時電流は流れない。動作した時に電流が流れる。

常時電流が流れて、動作した時に電流が流れない。

NE555, SE555 の他社の同等品
 SG555, M51841P (三菱)
 SN72555P (TI) MC1455 (ヒト)

NOTES 1. Supply Current when output high typically 1mA less.
 2. Tested at $V_{cc} = 5V$ and $V_{cc} = 15V$
 3. This will determine the maximum value of $R_A + R_B$. For 15V operation, the max total $R = 20M\Omega$

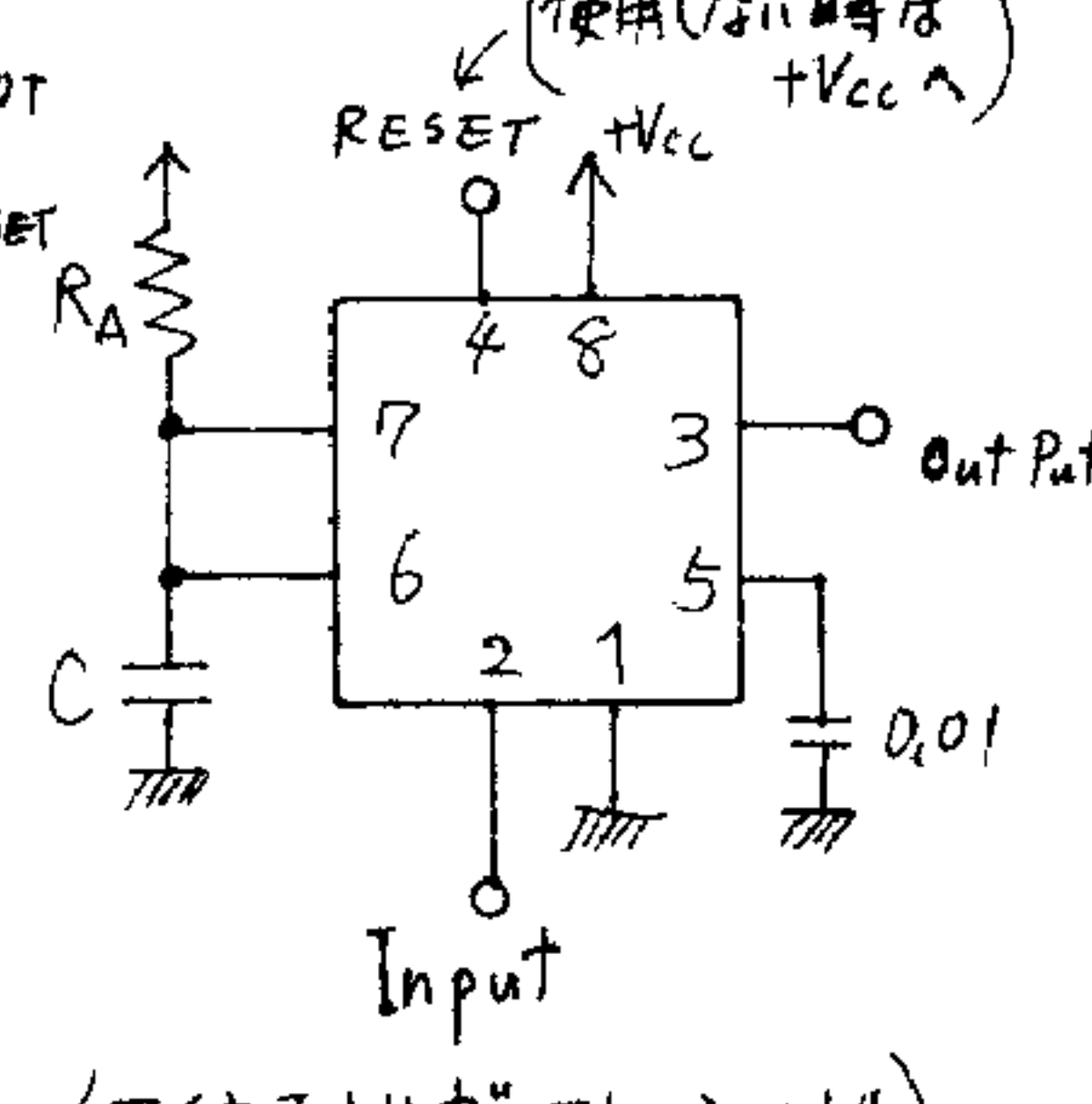
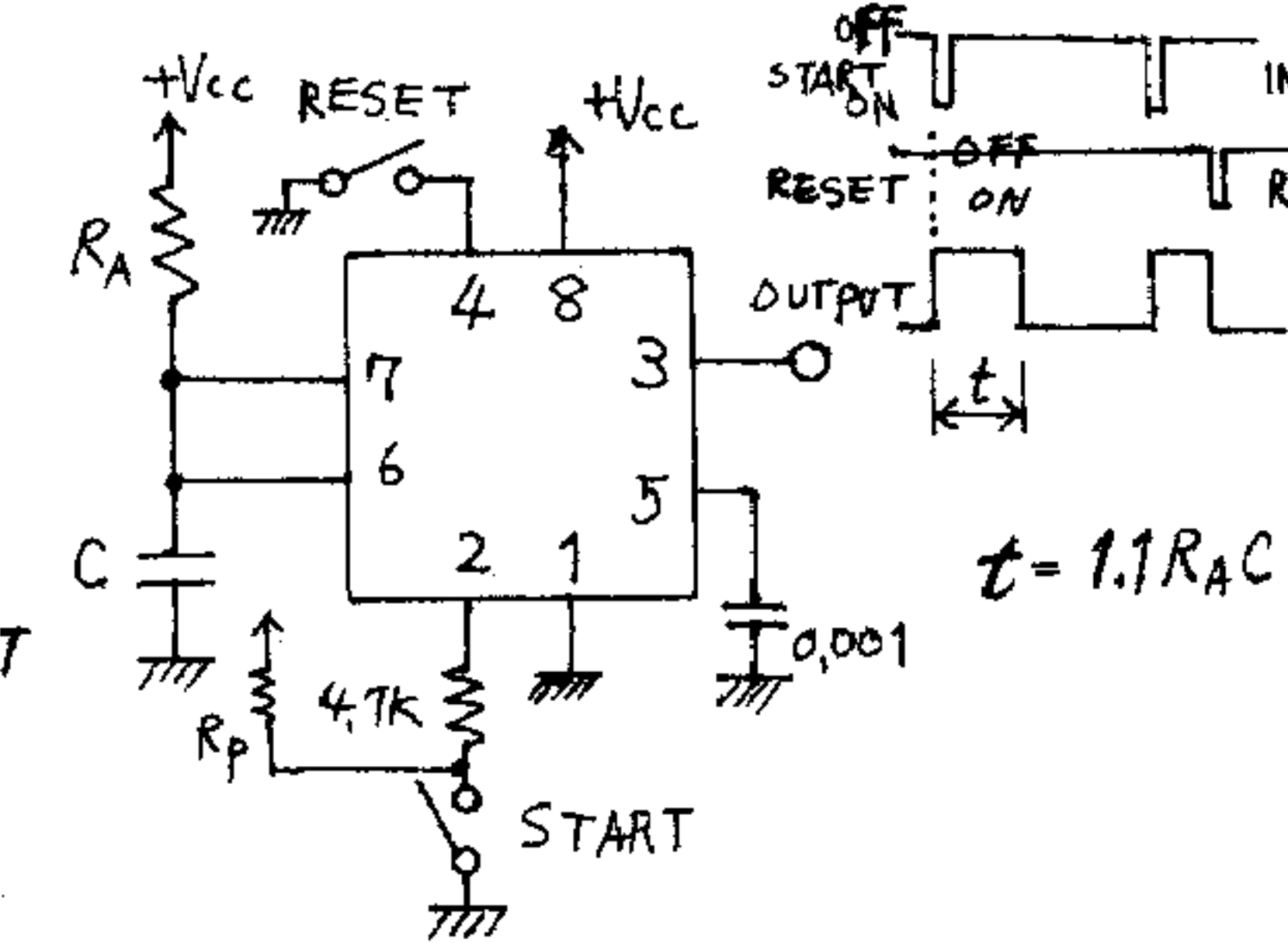
'76 11月の調査

555	556
トキワ ¥200	¥560
オカモト ¥300	
シュン ¥300	¥550
ニシヤ ¥270	

Timer

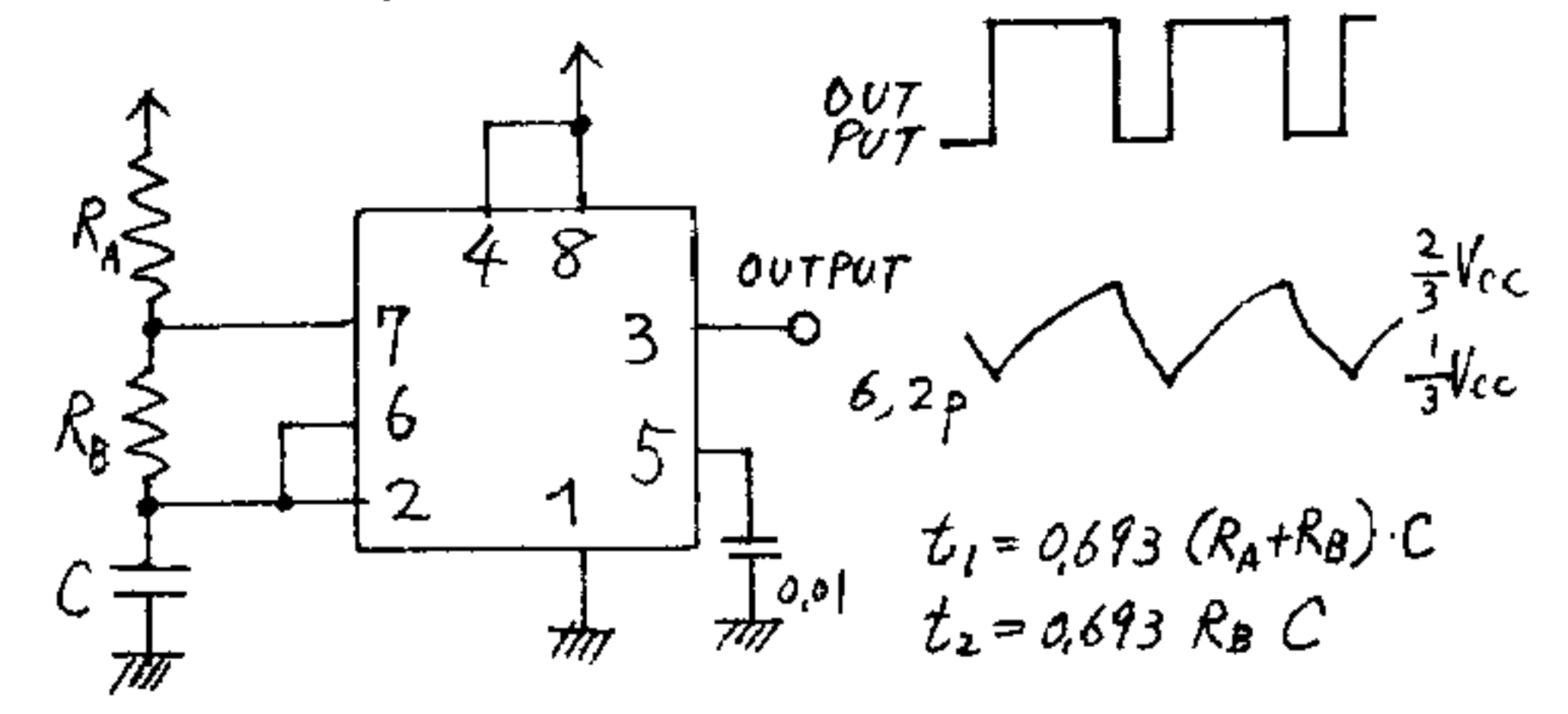


One-Shot



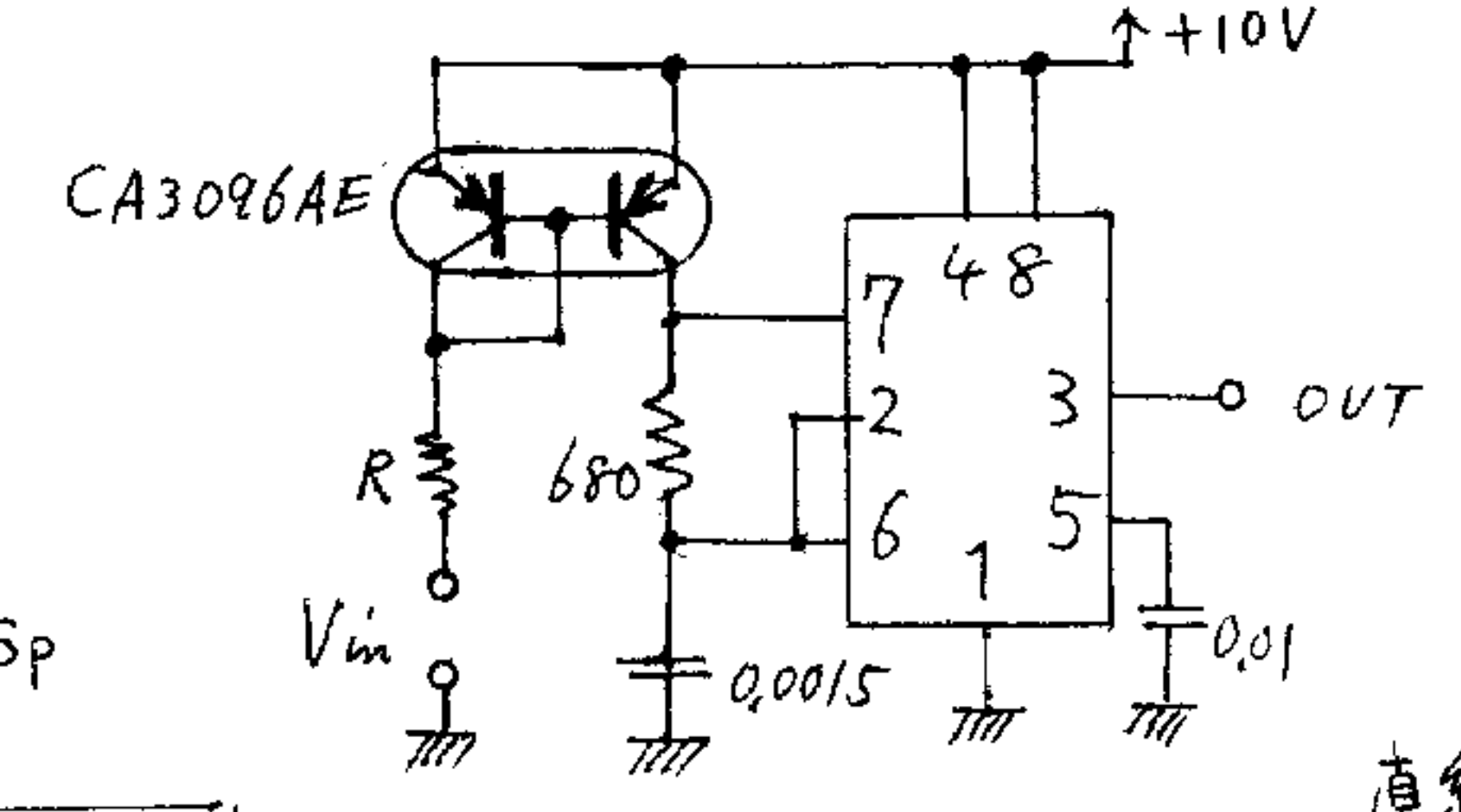
(マイナストリカ・スリット)
電圧は 1/3 Vcc

UNSTABLE (osc)



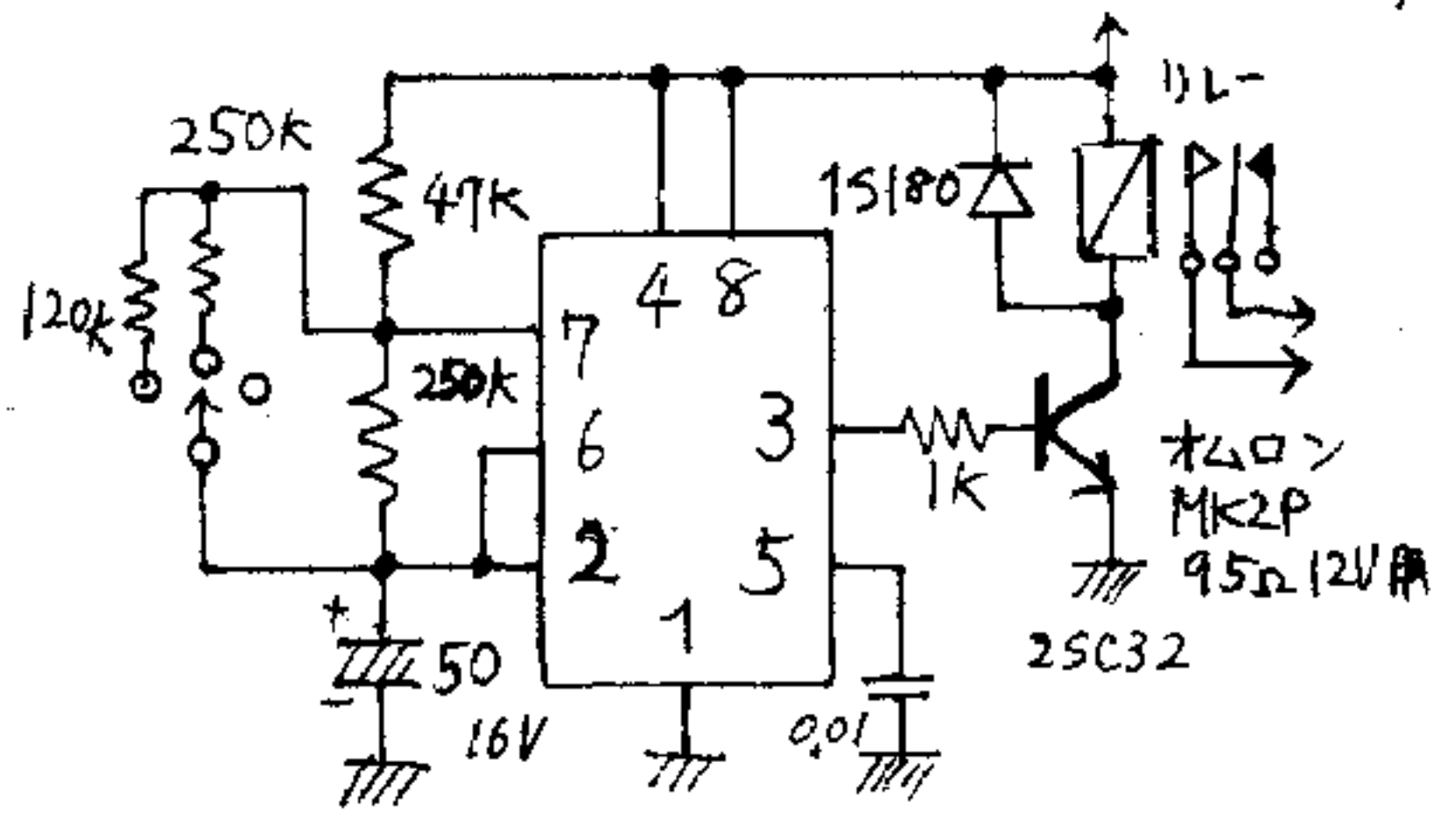
$t_1 = 0.693 (R_A + R_B) \cdot C$
 $t_2 = 0.693 R_B C$

VCO

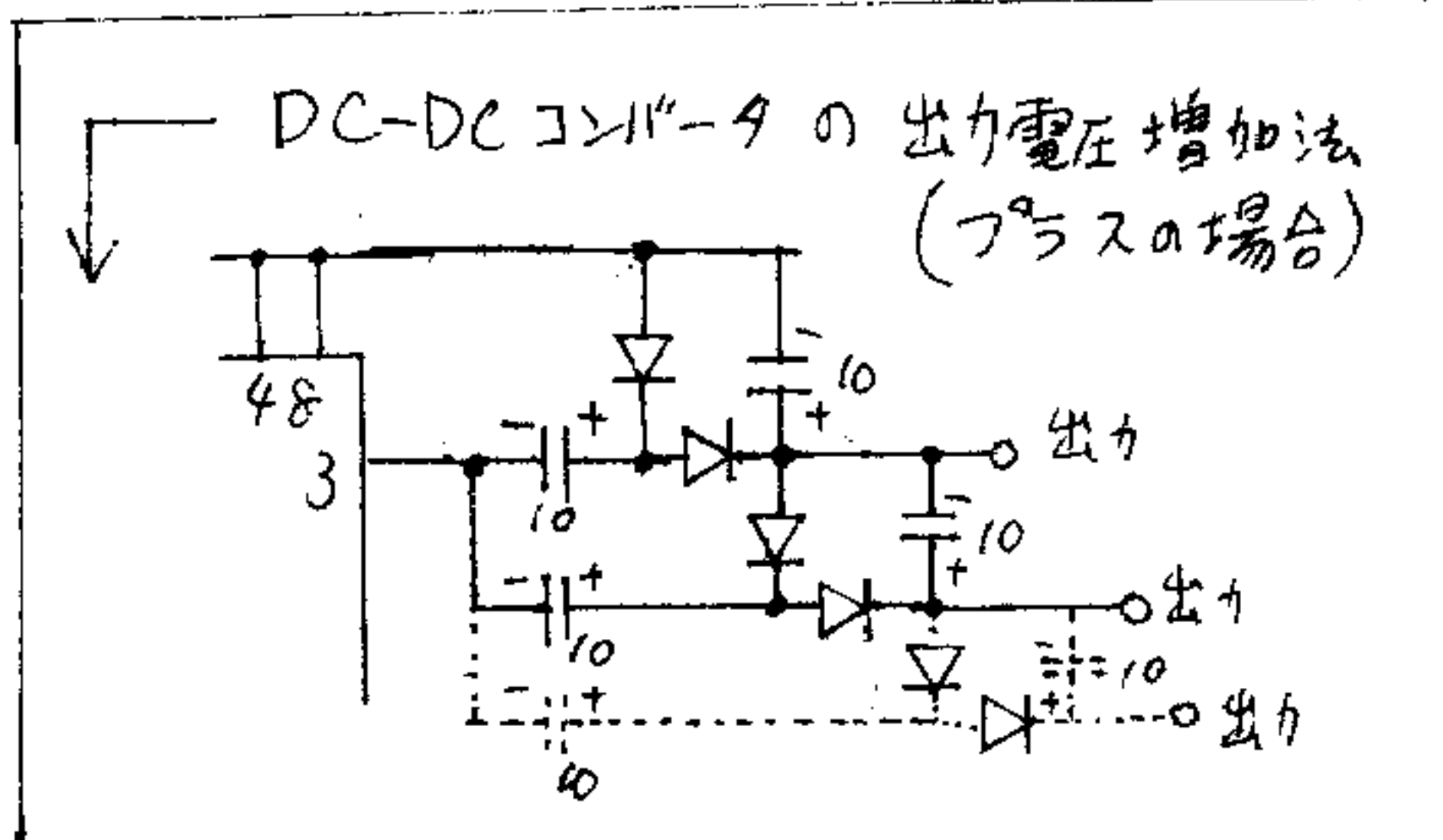
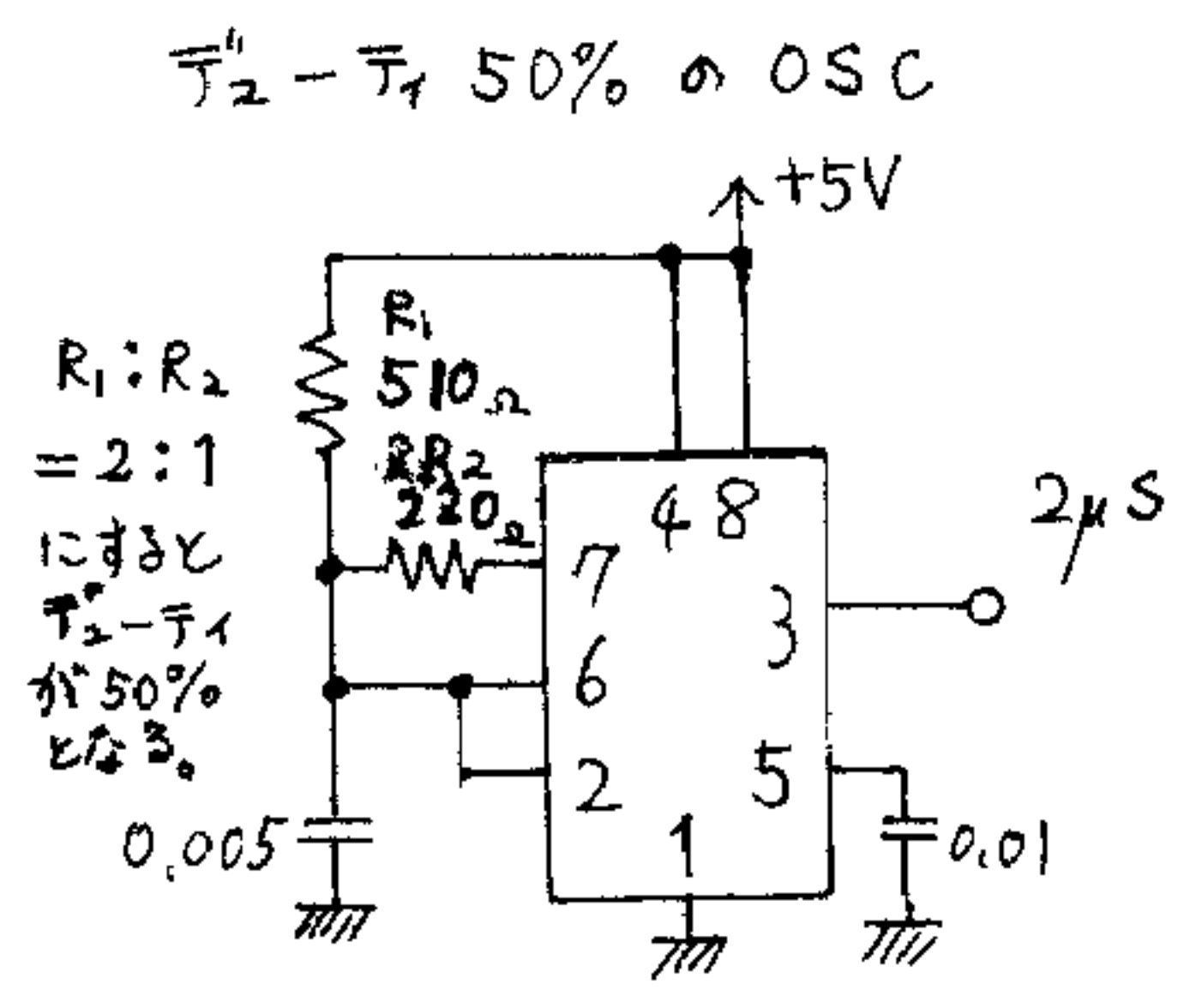
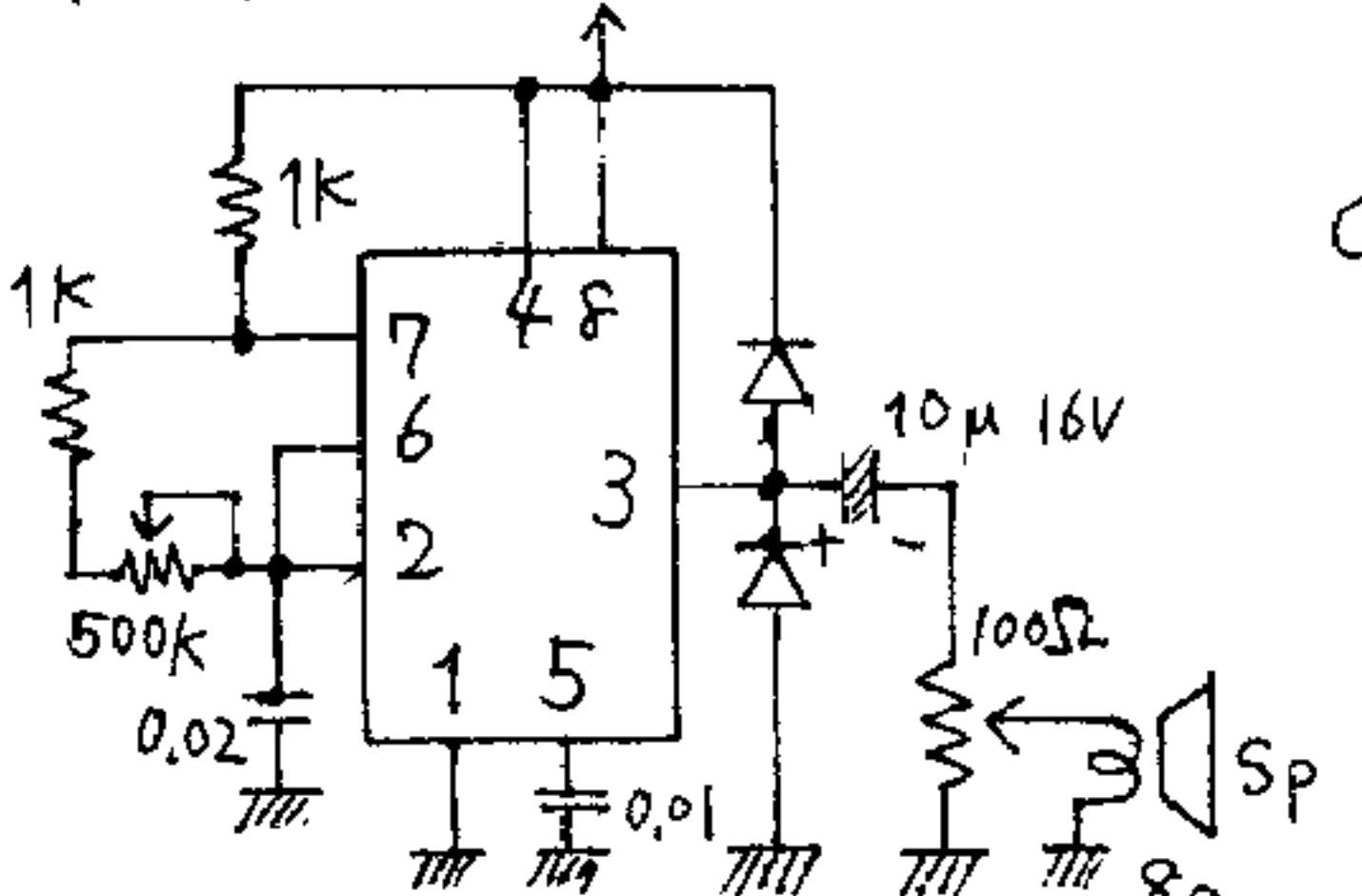


直線性
R = 39kΩ : Vin 2~7V ±0.5% 10kHz~23kHz
1~9V ±1% 100kHz~26kHz
R = 20kΩ : Vin 1~8V ±1.5% 10kHz~55kHz

オトスリカ

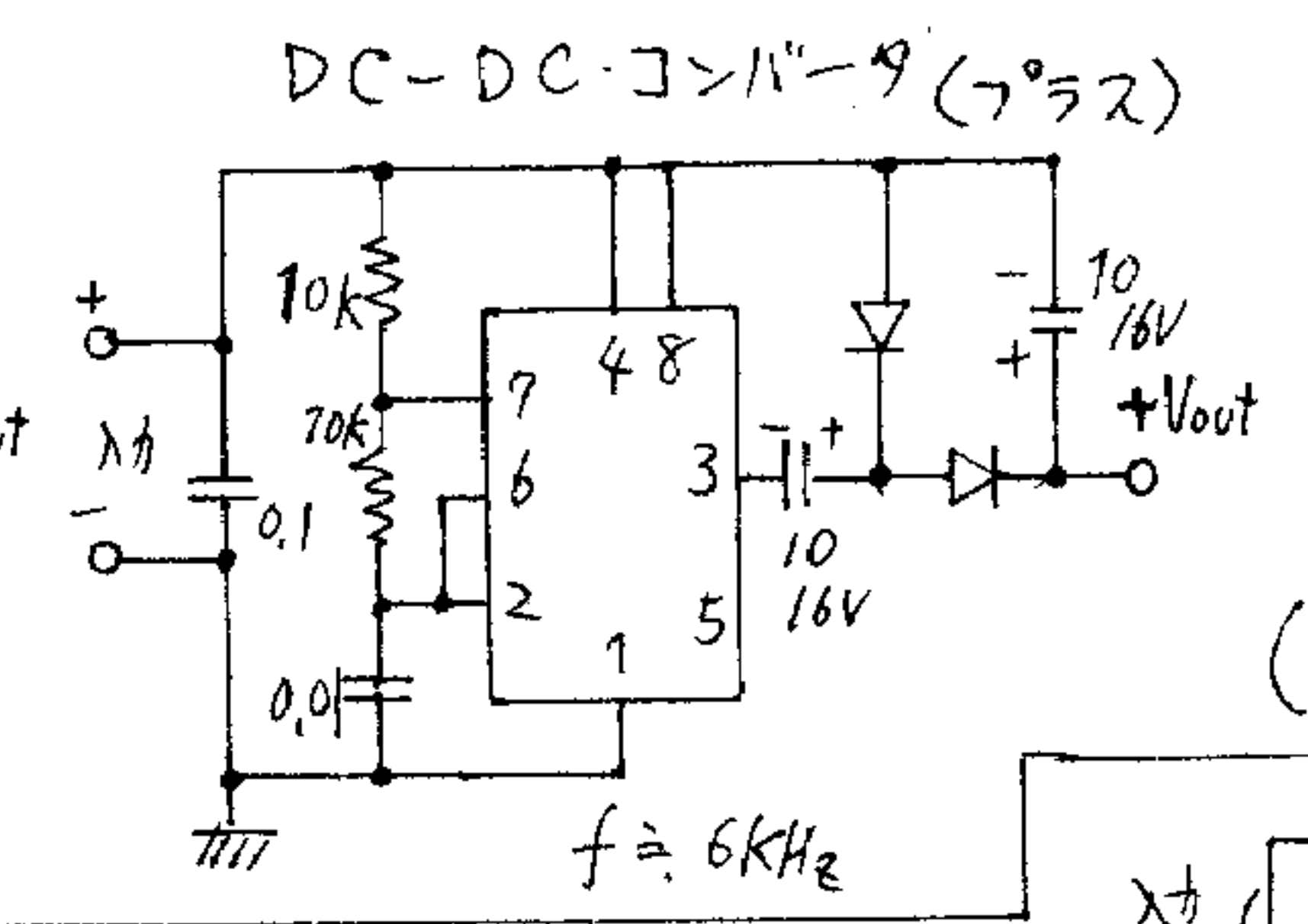
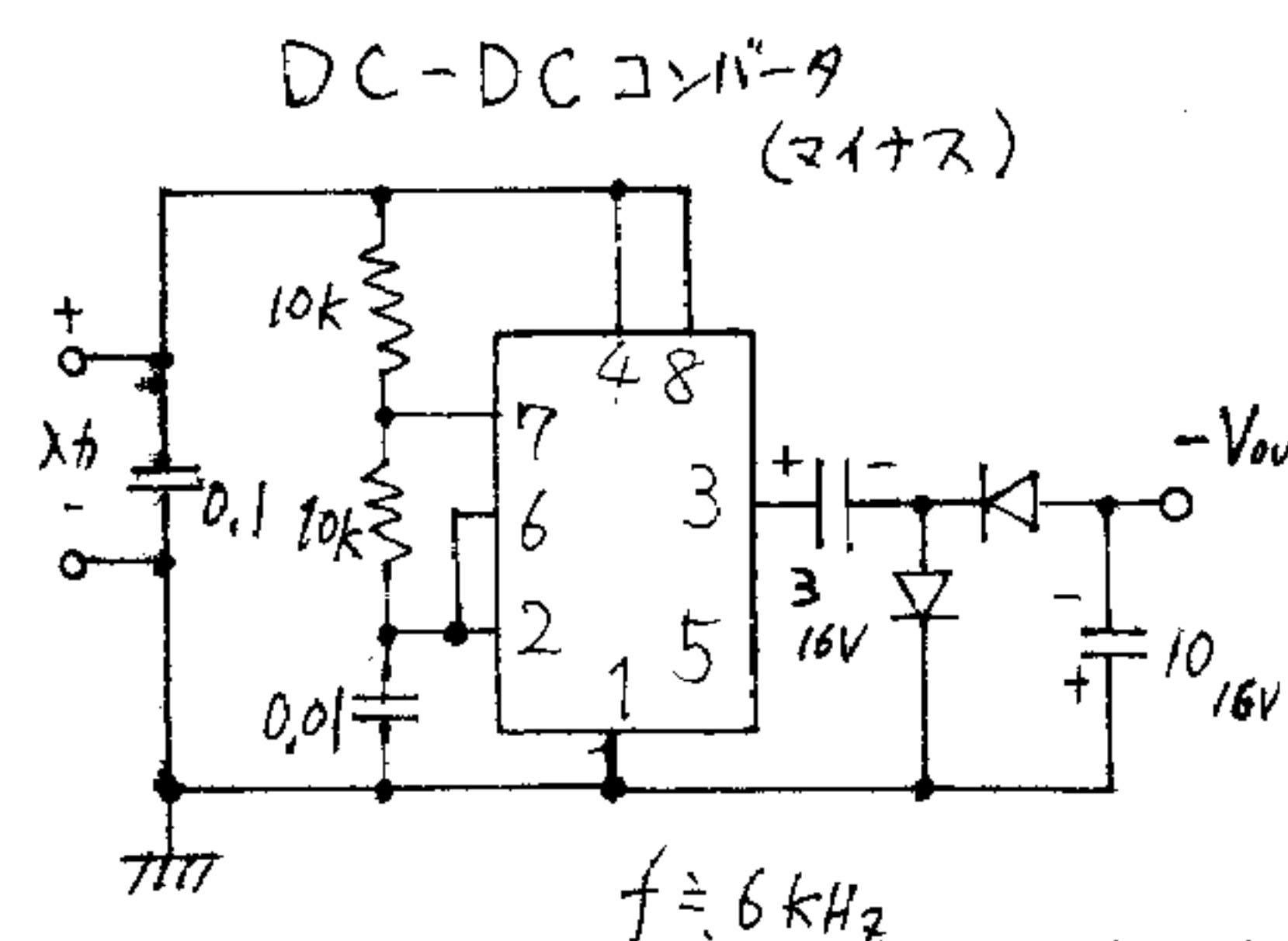


オトスリカ OSC



DC-DCコンバータのT-9 (マイナ)

入力	出力	出力	出力	出力
λカ=5V	λカ=6V	λカ=9V	λカ=12V	
3.8V 0mA	4.8V 0mA	7.7V 0mA	8.9V 2mA	
2.2 1	3.2 2	6.2V 1	8.4 10	
2.1 2	3.0 4	6.1 2	8.1 15	
2.0 3	2.9 6	6.0 4	7.9 20	
1.9 4	2.7 8	5.9 6	6.7 30	
1.9 5	1.5 10	5.7 8	6.1 40	
1.8 6		5.6 10	5.7 50	
0.6 7		5.3 15	5.5 60	
		5.0 18	5.0 70	
		4.2 20	4.6 80	
			4.0 90	



(プラスの場合は、出力電圧は入力電圧を加えたものになる)

