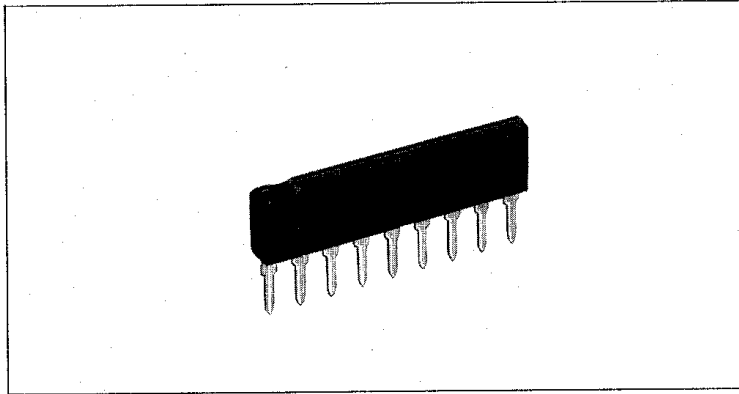


**Blank Section Detector**  
**BA336/BA338**



**Dimensions**

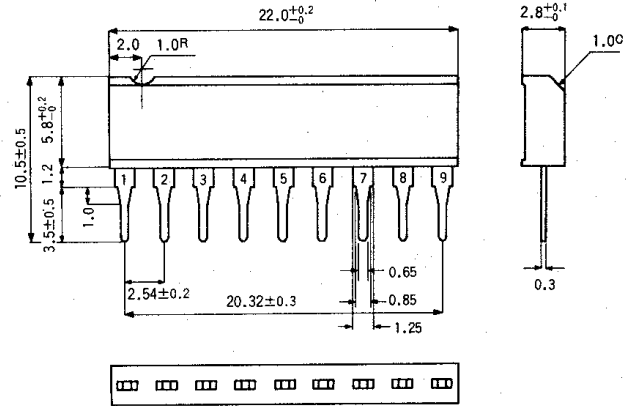


Fig. 1

The BA336/338 are monolithic integrated circuits consisting of a tape program selector and end detection circuit. When the blank section condition (52dBm) persists for more than the time constant  $T_D$  set by an external RC circuit, the circuit takes the present section to be a blank section. An additional function outputs a pulse of a width determined by another external RC circuit after the blank section has been detected. This pulse is used to control the plunger. These functions are housed in a compact 9-pin SIL package. The circuit itself consists of a preamplifier with a limiter, a comparator flip-flop, and a driver. Circuitry has been provided to prevent misoperation when power is applied and input overvoltage as well as blank section noise countermeasures have been taken as well.

**Block Diagram**

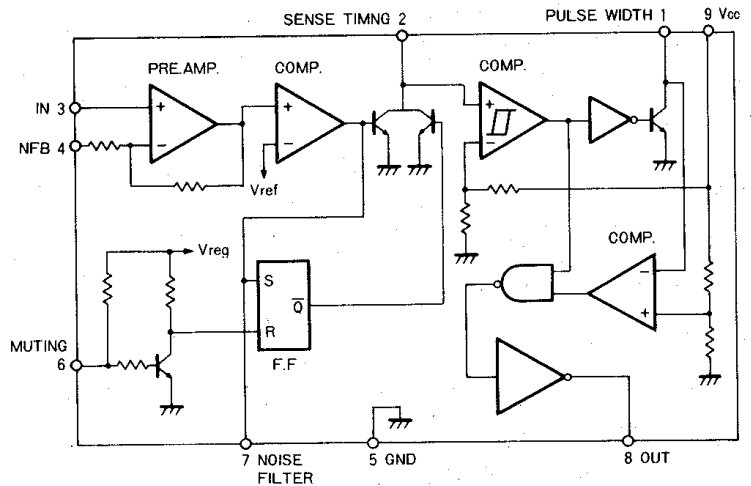


Fig. 2

**Features**

1. Program detection time and output pulsewidth are controllable by means of an external RC circuit.
2. A circuit has been provided to prevent misoperation due to noise during blank sections.
3. An overcurrent protection circuit is provided.
4. A circuit is provided to prevent misoperation when power is applied.
5. Detection operation may be inhibited by means of an external input.

**Applications**

1. Tape program detection
2. Tape END detection

**Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )**

Parameter	Symbol	Limits	Unit
Supply voltage	$V_{CC}$	16	V
Power dissipation	$P_d$	540*	mW
Operating temperature	$T_{opr}$	-20~+75	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-50~+125	$^\circ\text{C}$
Overcurrent protection time	$T_{STOL}$	0.1**	s

\* Derating is done at 5.4mW/ $^\circ\text{C}$  for operation above  $T_a = 25^\circ\text{C}$ .

\*\*  $V_{CC} = 16\text{V}$ ,  $R_1 = 20\Omega$ ,  $T_a = 25^\circ\text{C}$ .

## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ , $V_{CC} = 9.0\text{V}$ )

Parameter	Symbol	Min	Typ	Max	Unit	Conditions	Test circuit
Supply voltage	$V_{CC}$	4.2	—	12	V		Fig. 7
Supply current	$I_{CC}$	—	6.5	11	mA	$V_{IN} = 0\text{V}$	Fig. 7
Input discriminating level	$V_{IN}$	-55	-52	-49	dBm	$f = 10\text{kHz}$ , $C_f = 1\mu\text{F}$	Fig. 7
Input current	$I_{IN}$	—	0.5	2.0	$\mu\text{A}$		Fig. 7
Blank section detection accuracy	$T_{ERR} (D)$	—	3	—	%		Fig. 7
Output pulsewidth accuracy	$T_{ERR} (W)$	—	3	—	%		Fig. 7
Low-level output voltage	$V_{OL}$	—	0.3	0.5	V	$I_{SINK} = 3.5\text{mA}$	Fig. 7
High-level output voltage	$V_{OH}$	6.0	7.0	—	V	$I_{SOURCE} = 80\text{mA}$	Fig. 7
Output limiting current	$I_{LIM}$	—	150	—	mA		Fig. 7
Pin 6 threshold voltage	$V_{6 TH}$	0.7	1.2	1.8	V	*	Fig. 7
Pin 6 output current	$I_{SO}$	—	70	—	$\mu\text{A}$	$V_{p6}$ (Pin 6 voltage = 0V)	

\* If the voltage on the muting pin (pin 6) falls below 0.7V, no output pulse is generated. Above 1.8V, detection operation is enabled.

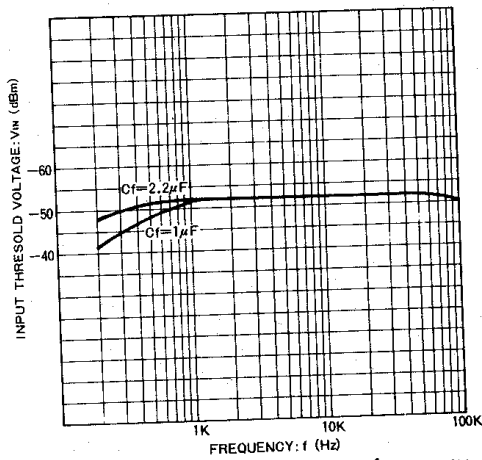


Fig. 4 Input threshold voltage vs. frequency

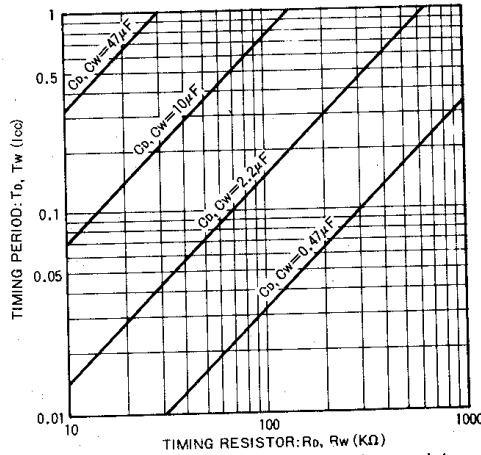


Fig. 5 Timing period vs. timing resistor values

## Electrical Characteristic Curves

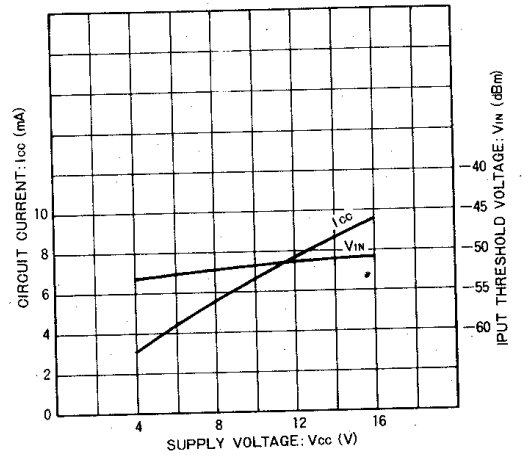


Fig. 3 Supply voltage characteristics

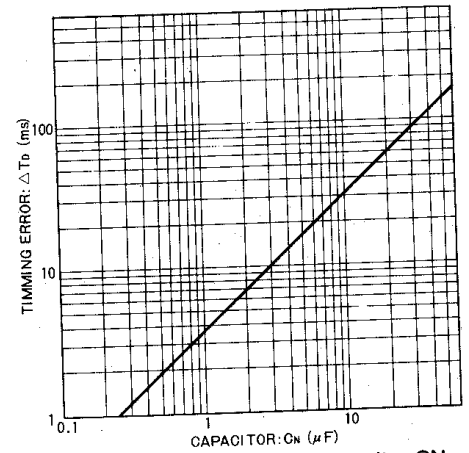


Fig. 6 Timing error vs. capacitor CN

## Test Circuit

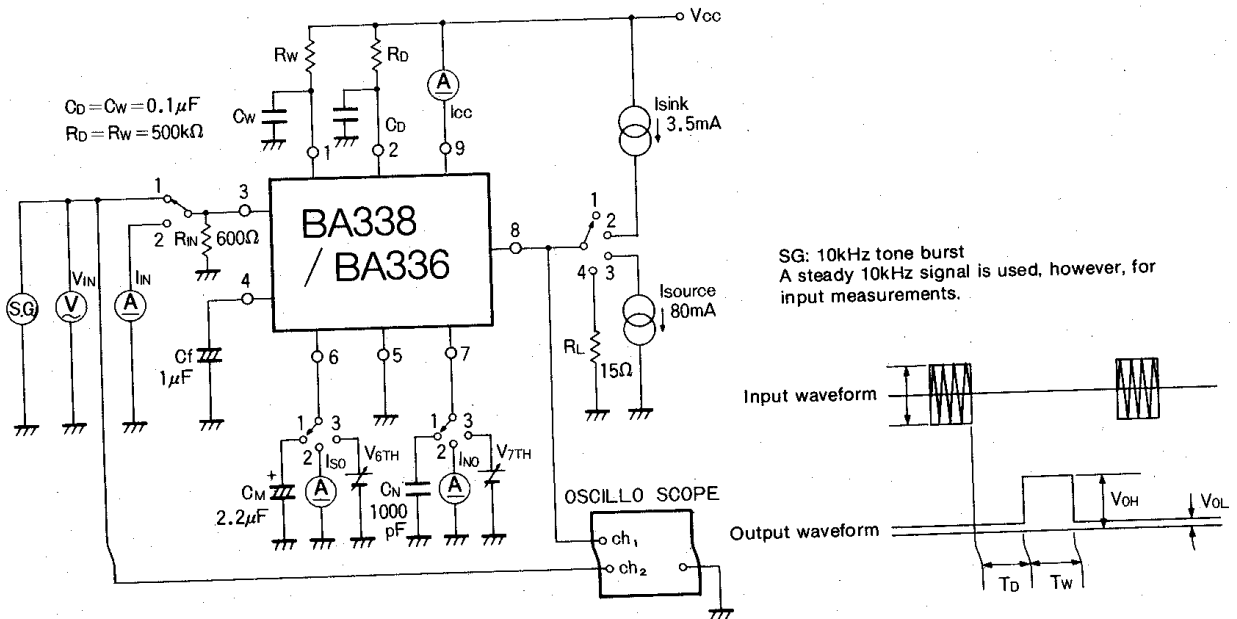


Fig. 7