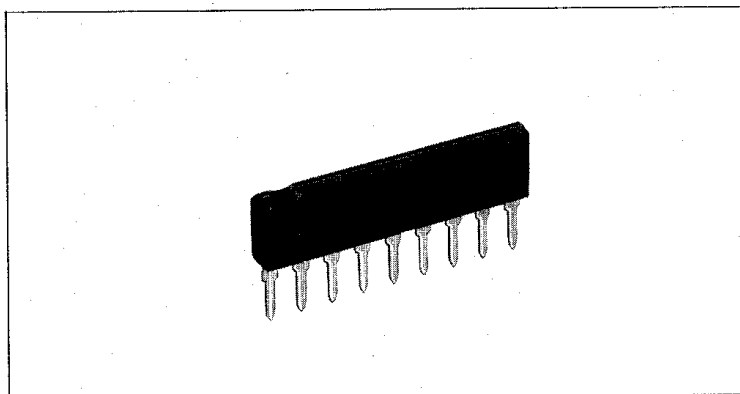


Blank Section Detector BA336/BA338



Dimensions

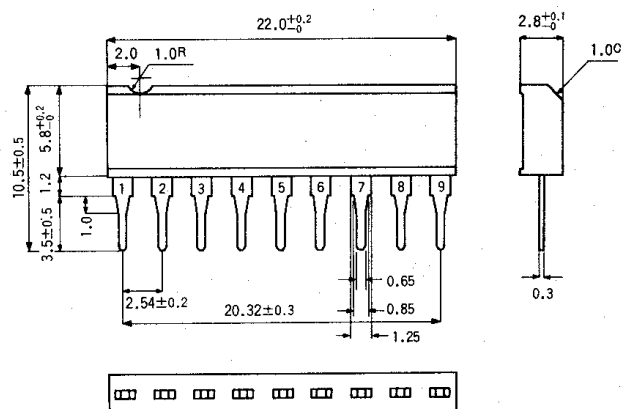


Fig. 1

Block Diagram

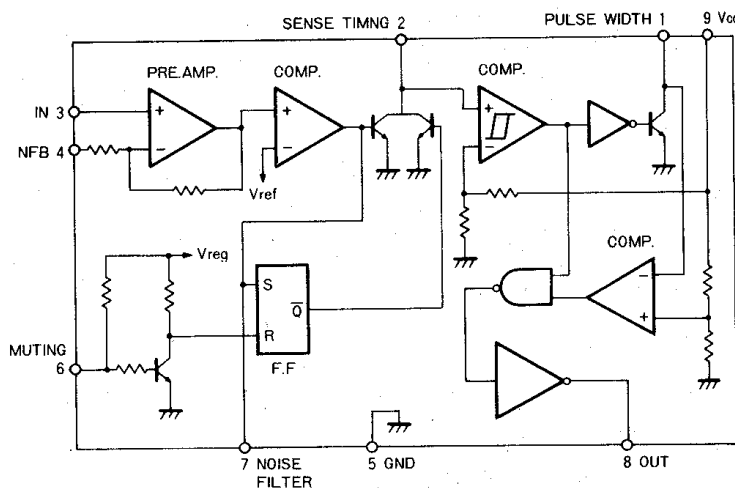


Fig. 2

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.

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}	$-20 \sim +75$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-50 \sim +125$	$^\circ\text{C}$
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°C, V_{CC} = 9.0V)

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} = 0V	Fig. 7
Input discriminating level	V _{IN}	-55	-52	-49	dBm	f = 10kHz, C _I = 1μF	Fig. 7
Input current	I _{IN}	—	0.5	2.0	μA		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} = 3.5mA	Fig. 7
High-level output voltage	V _{OH}	6.0	7.0	—	V	I _{SOURCE} = 80mA	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	—	μA	V ₆ (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.

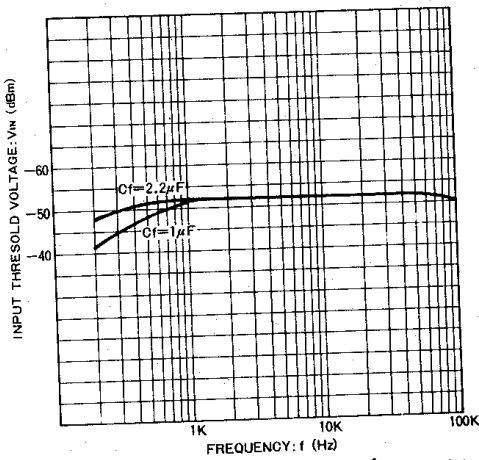


Fig. 4 Input threshold voltage vs. frequency

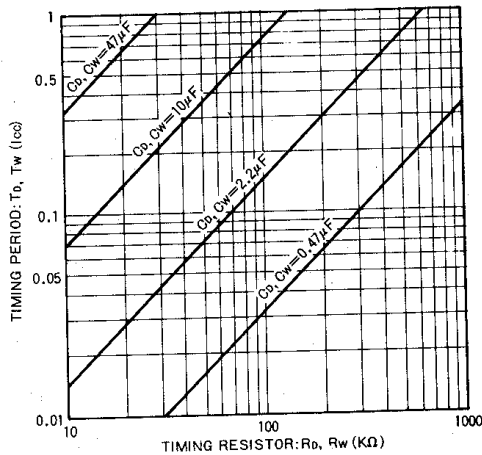


Fig. 5 Timing period vs. timing resistor values

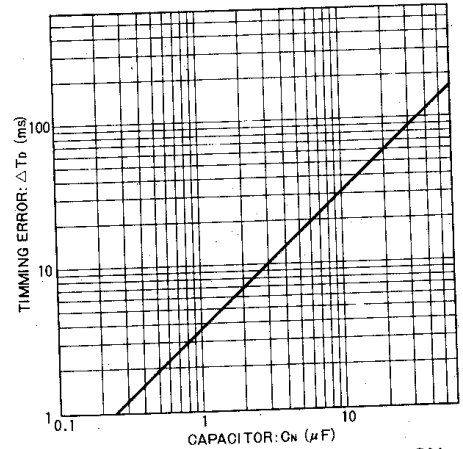


Fig. 6 Timing error vs. capacitor C_N

Test Circuit

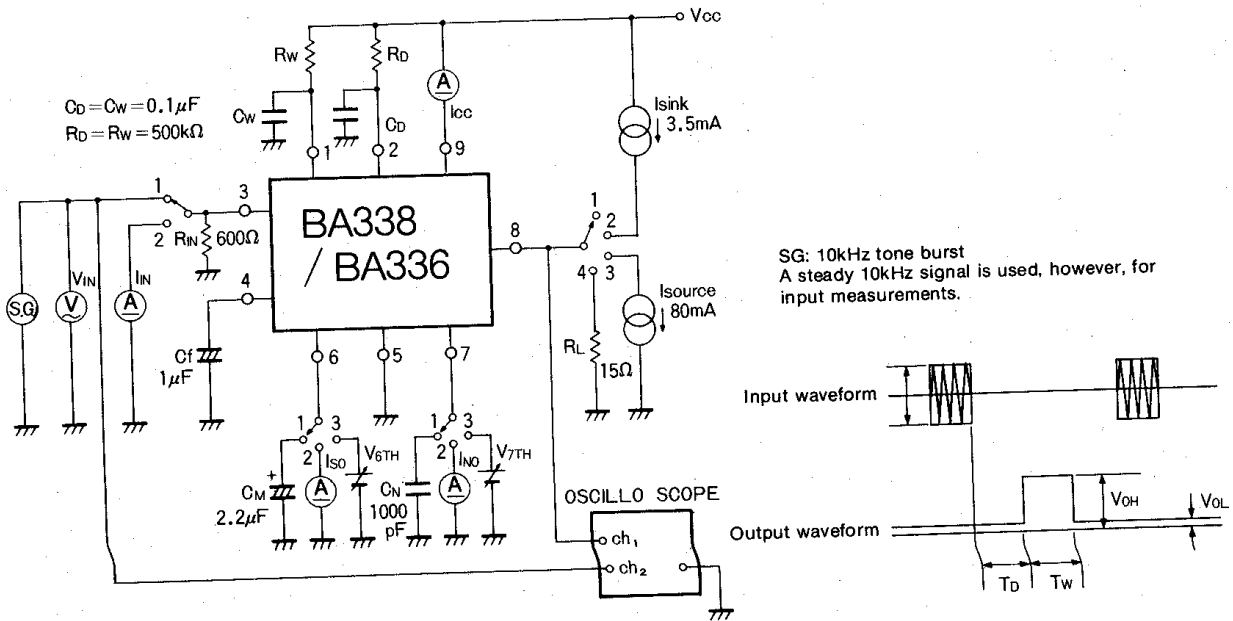


Fig. 7

Electrical Characteristic Curves

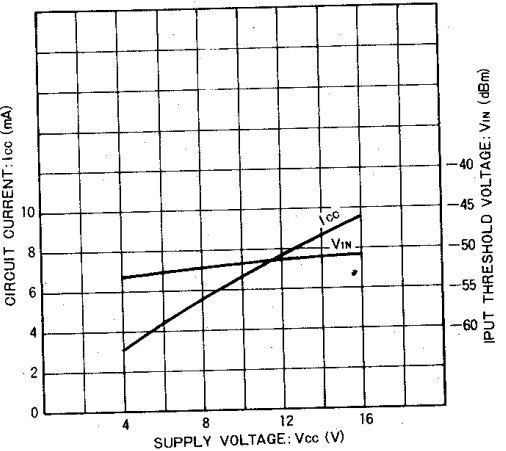


Fig. 3 Supply voltage characteristics