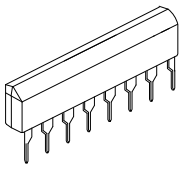
PROTECTOR IC FOR STEREO POWER AMPLIFIER



SIP-8

■ DESCRIPTION

UTC **UPC1237** is a semiconductor integrated circuit designed for protecting stereo power amplifiers and loudspeakers.

■ FEATURES

* Wide supply voltage range of 25V~60V.
* Contain a relay driver. (Max. I_6=80mA)
* Work as either latching function or automatic resetting function by using pin 3. (In both overload detection and output offset detection, either function can be selected.)
* Single power supply.
* Built-in output offset detection function. Both positive and negative output offset can be detected through pin2.
* AC voltage can be detected.
* Time delay function. The time delay form amplifier power ON to relay ON can be freely set by selecting external components.
* The moment that amplifier-power is turned off, it can make relay broken OFF and then loudspeaker disconnected for amplifier to prevent a shock off noise.

■ ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UPC1237L-G08-T	UPC1237G-G08-T	SIP-8	Tube

UPC1237L-G08-T

(1)Packing Type

(2)Package Type

(3)Lead Free

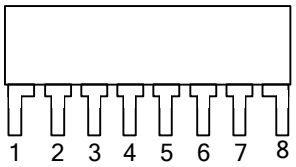
(1) T: Tube

(2) G08: SIP-8

(3) G: Halogen Free, L: Lead Free

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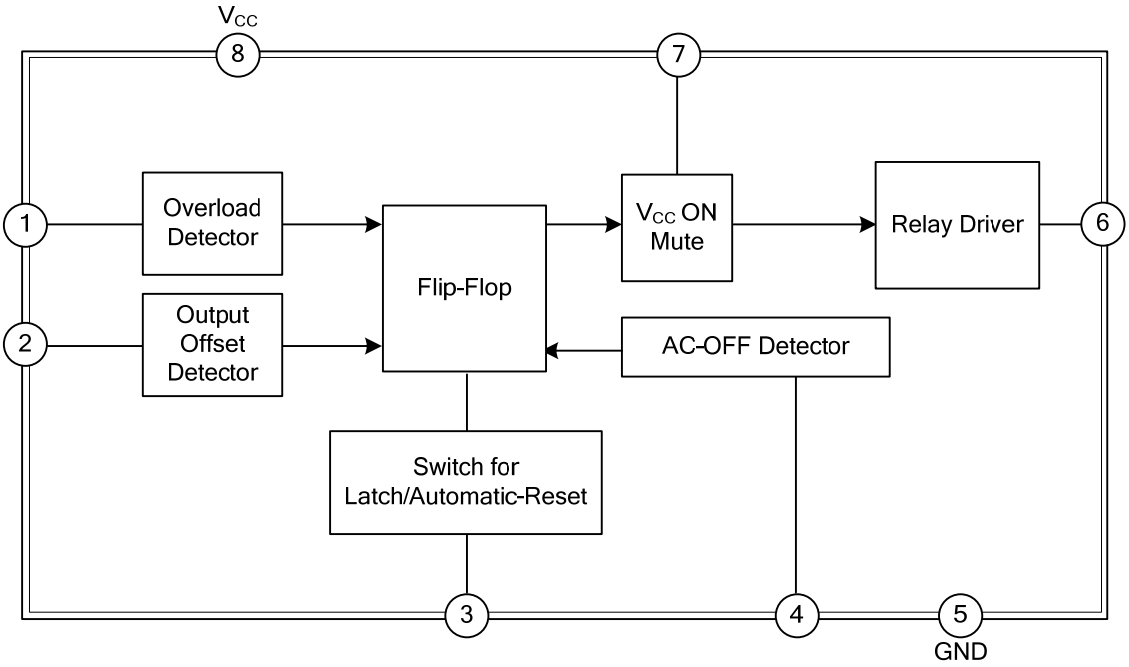
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	PIN1	Input pin of overload detector
2	PIN2	Input pin of output offset detector
3	PIN3	Input pin of switch for latch/automatic-reset
4	PIN4	Input pin of AC-OFF detector
5	PIN5	GND
6	PIN6	Output pin of relay driver
7	PIN7	Input pin of V_{CC} ON mute, setting delay time
8	PIN8	V_{CC}

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V_{CC}	60	V
Pin 4 Maximum Voltage	$V_{4(MAX)}$	10	V
Pin 7 Maximum Voltage	$V_{7(MAX)}$	8	V
Pin 8 Maximum Voltage	$V_{8(MAX)}$	8	V
Pin 1 Maximum Current	$I_{1(MAX)}$	3	mA
Pin 2 Maximum Current	$I_{2(MAX)}$	±3	mA
Pin 6 Maximum Current	$I_{6(MAX)}$	80	mA
Power Dissipation (T_A=75°C)	P_D	320	mW
Operational Temperature	T_{OPR}	-20 ~ +75	°C
Storage Temperature	T_{STG}	-40 ~ +125	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

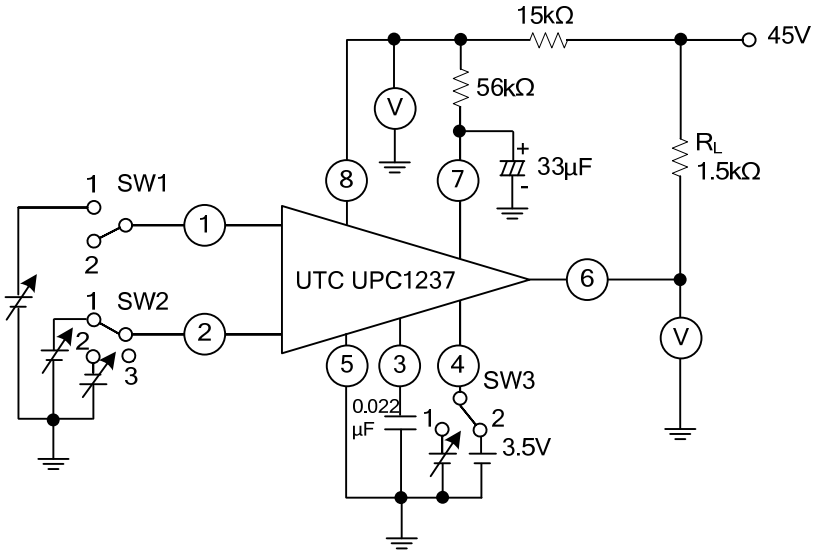
■ RECOMMENDED OPERATING CONDITION

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	25 ~ 60	V

■ ELECTRICAL CHARACTERISTICS (V_{CC}=45V, T_A=25°C, Using latching function)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Pin 1 Threshold Voltage	V_{TH} 1	Level to invert at Pin 6	0.58	0.67	0.76	V
Pin 2 Positive Threshold Voltage	V_{TH} +2	Level to invert at Pin 6	0.54	0.62	0.70	V
Pin 2 Negative Threshold Voltage	V_{TH} -2	Level to invert at Pin 6	-0.12	-0.17	-0.23	V
Pin 4 Threshold Voltage	V_{TH} 4	Level to invert at Pin 6	0.60	0.74	0.90	V
Pin 8 Reference Voltage	V8	R_L=1.5kΩ	3.0	3.4	3.8	V

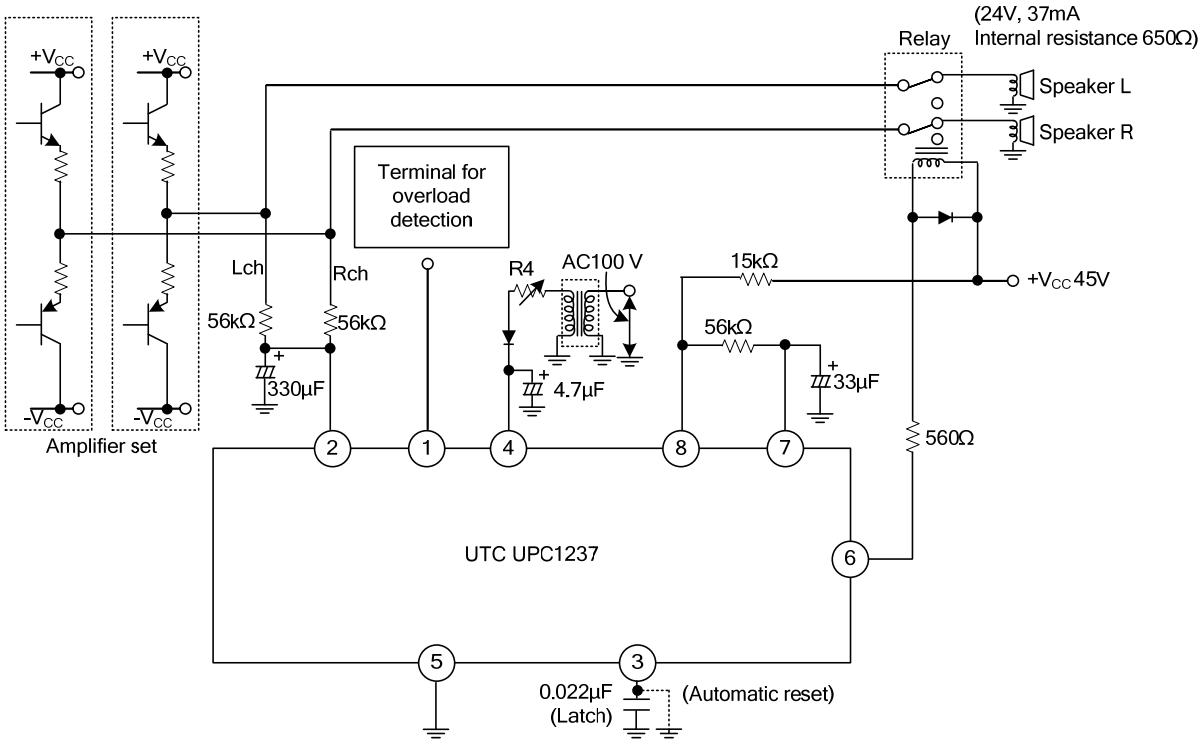
■ TEST CIRCUIT



Switch positions

Item	SW 1	SW 2	SW3
V_{TH} 1	1	3	2
V_{TH} +2	2	1	2
V_{TH} -2	2	2	2
V_{TH} 4	2	3	1
V8	2	3	2

■ TYPICAL APPLICATION CIRCUIT



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