

**LA5667****Multifunction Multiple Voltage Regulator****Overview**

- Especially suited for use in micorcomputer-controlled tuners, receivers, preamplifiers and the like.

**Features**

- Two independent regulators contained in a single chip (13.0V/350mA, 5.6V/100mA).
- Reset circuit which delivers the reset signal on the positive transition, negative transition of the 5.6V output.
- Muting circuit which detects the 13.0V input and reset output to deliver the muting signal (We have the LA5665 whose detection function for reset, muting is provided on the output voltage side).

**Specifications****Maximum Ratings** at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	$V_{IN1, 2}$		36	V
Output current	$I_{OUT1, 2}$	Internal		
Allowable power dissipation	$P_d \text{ max}$	IC only	1.6	W
Operating temperature	$T_{opr}$		-30 to +80	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to +125	$^\circ\text{C}$

**Operating Conditions** at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	$V_{IN1}$	$I_{OUT1}=200\text{mA}$	16.2 to 35	V
	$V_{IN2}$	$I_{OUT2}=50\text{mA}$	8.7 to 35	V

**Operating Characteristics** at  $T_a = 25^\circ\text{C}$ ,  $V_{IN1}=20\text{V}$ ,  $V_{IN2}=10\text{V}$ 

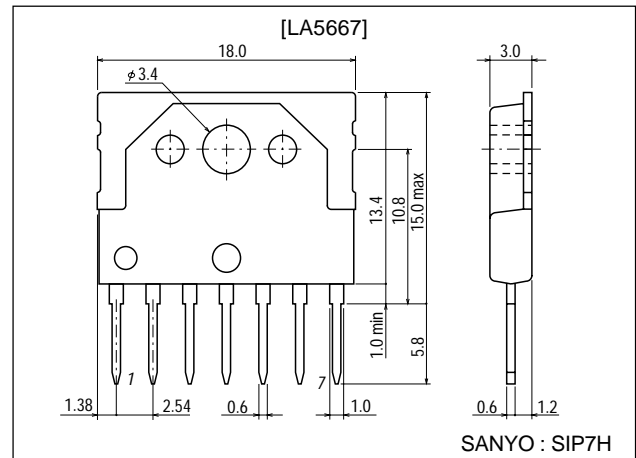
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	$I_{IN1}$		1.8	2.8	3.8	mA
	$I_{IN2}$		3.8	5.8	7.8	mA
Output voltage	$V_{O1}$	$I_{OUT1}=200\text{mA}$	12.3	13.0	13.7	V
	$V_{O2}$	$I_{OUT2}=50\text{mA}$	5.2	5.6	6.0	V

Continued on next page.

**Package Dimensions**

unit:mm

3075-SIP7H



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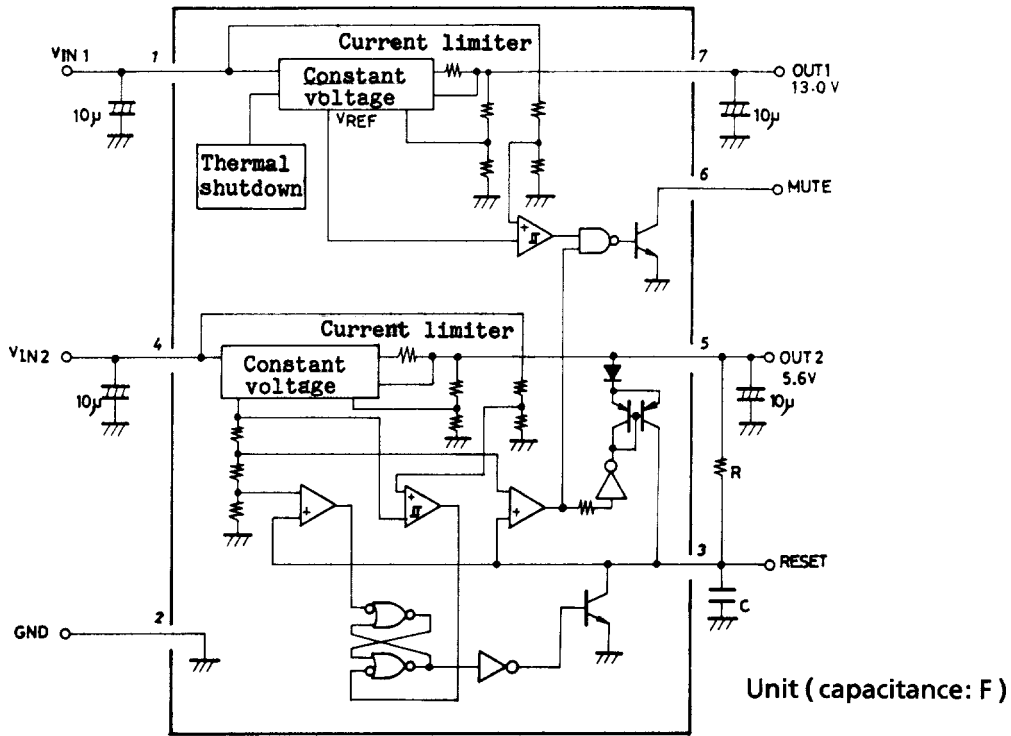
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Line regulation	$V_{ol1}$	$V_{IN2}=19$ to $27V$		6	20	mV
	$V_{ol2}$	$V_{IN2}=9$ to $18V$		2	20	mV
Load regulation	$V_{old1}$	$I_O=0$ to $350mA$		10	30	mV
	$V_{old2}$	$I_O=0$ to $100mA$		2	20	mV
Ripple rejection	Rr1	$f=120Hz, I_O=200mA$	56	65		dB
	Rr2	$f=120Hz, I_O=50mA$	60	75		dB
Input-output voltage drop	Vdr1	$I_O=200mA$		1.6	2.5	V
	Vdr2	$I_O=50mA$		1.5	2.5	V
Reset detect voltage	$\Delta V_R$	$\Delta V_R=V_R-V_{O2}, I_{O2}=50mA$ (Note 1)	1.65	1.9	2.2	V
Reset detect hysteresis voltage	$\Delta V_H$		50	75	110	mV
Timer compare voltage	$V_{C1}$		1.0	1.2	1.4	V
	$V_{C2}$		0.06	0.13	0.18	V
Timer input bias current	$I_{TB}$				250	nA
Muting detect voltage	$\Delta V_M$	$\Delta V_M=V_{RM}-V_{O1}, I_{O1}=200mA$ (Note 2)	1.0	1.5	2.0	V
Muting output voltage	$V_{OMUTE}$	$I_{OMUTE}=5mA$		0.1	0.15	V
Muting detect hysteresis voltage	$\Delta V_{MH}$		110	160	210	mV

Note 1 :  $V_R$  is the voltage of  $V_{IN2}$  at the time reset is turned OFF.

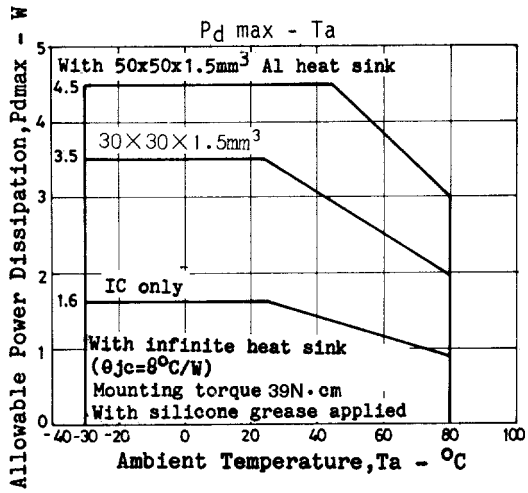
Note 2 :  $V_M$  is the voltage of  $V_{IN1}$  at the time muting is turned OFF.

## Equivalent Circuit Block Diagram, Pin Assignment, and Peripheral Circuit

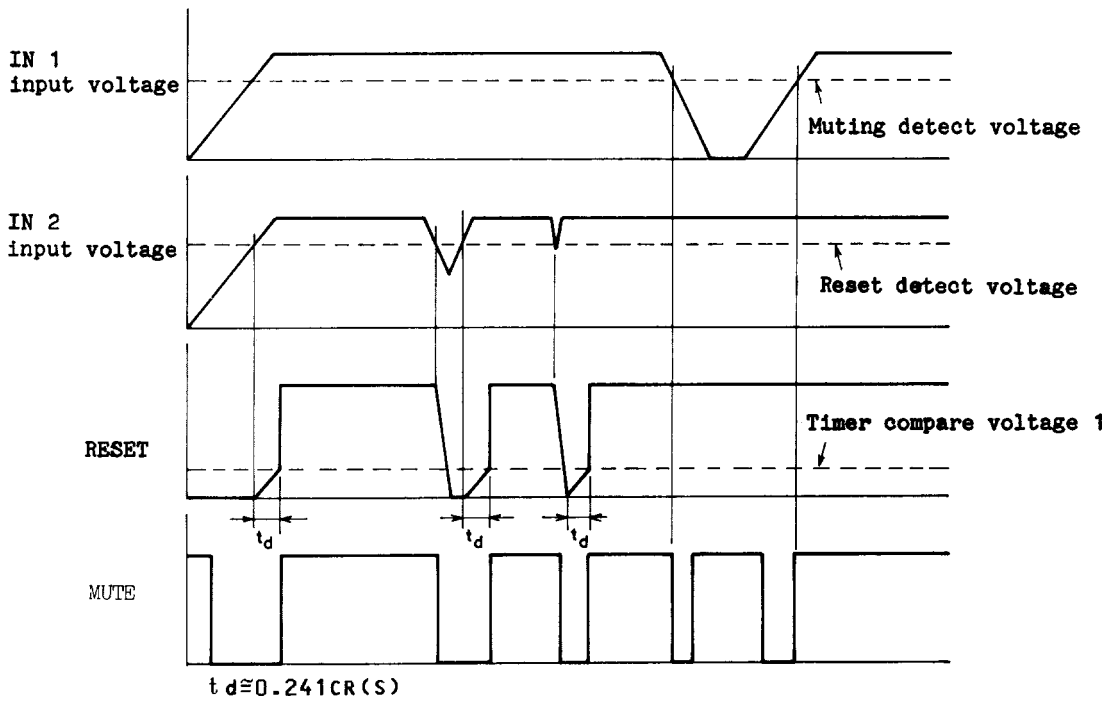


(Note) The reset delay time is set by R, C.

Pin No.	Name	Description
1	$V_{IN1}$	Input pin for 13.0V output line
2	GND	Ground
3	RESET	Reset delay time and output pin
4	$V_{IN2}$	Input pin for 5.6V output line
5	OUT2	5.6V output pin
6	MUTE	Muting signal output pin
7	OUT1	13.0V output pin



Operating Waveforms



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