Ordering number:ENN2116A

Monolithic Linear IC

LA5666

Multifunction Multiple Voltage Regulator

Overview

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

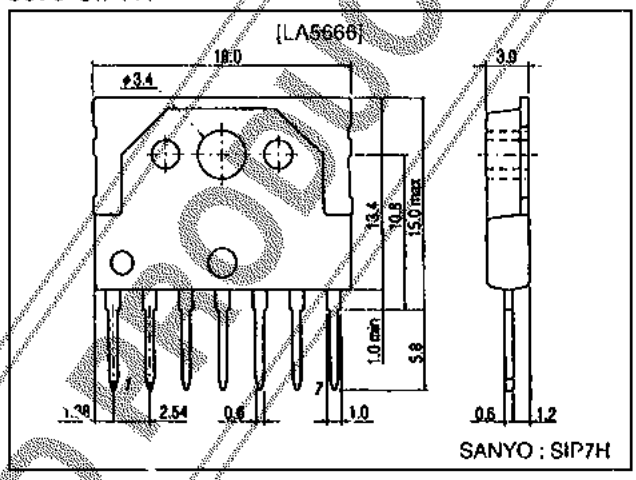
Features

- Two independent voltage 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).

Package Dimensions

unit:mm

3075-SIP7H



Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	$V_{IN}1, 2$		36	V
Output current	$I_{OUT}1, 2$	Internal		
Allowable power dissipation	Pd max	IC only	1.6	W
Operating temperature	Topr		−30 to +80	°C
Storage temperature	Tstg		−40 to +125	°C

Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	$V_{IN}1$	$I_{OUT}1$=200mA	16.2 to 35	V
	$V_{IN}2$	$I_{OUT}2$=50mA	8.7 to 35	V

Operating Characteristics at Ta = 25°C, $V_{IN}1$=20V, $V_{IN}2$=10V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	$I_{IN}1$		1.8	2.8	3.8	mA
	$I_{IN}2$		3.8	5.8	7.8	mA
Output voltage	V_O1	$I_{OUT}1$=200mA	12.3	13.0	13.7	V
	V_O2	$I_{OUT}2$=50mA	5.2	5.6	6.0	V

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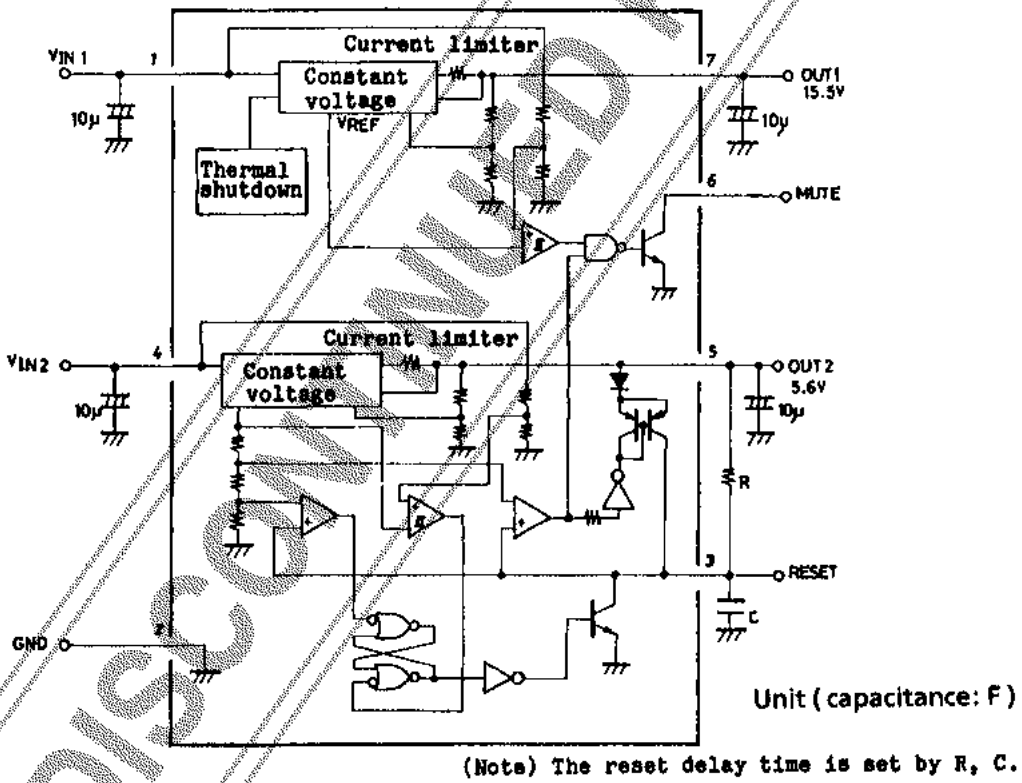
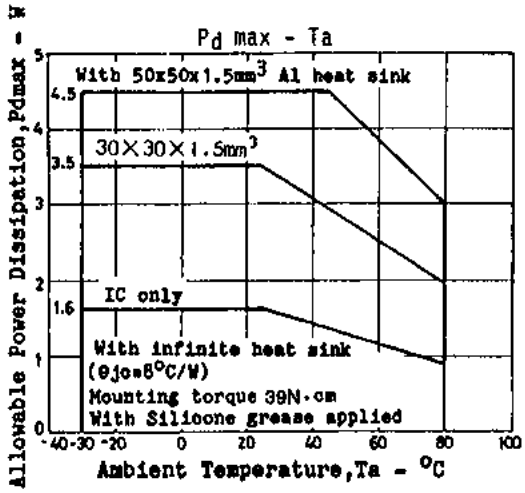
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Line regulation	$V_{OI}1$	$V_{IN}2$=19 to 27V		6	20	mV
	$V_{OI}2$	$V_{IN}2$=9 to 18V		2	20	mV
Load regulation	$V_{OLD}1$	I_O=0 to 350mA		10	30	mV
	$V_{OLD}2$	I_O=0 to 100mA		2	20	mV
Ripple rejection	Rr1	f=120Hz, I_O=200mA	56	65		dB
	Rr2	f=120Hz, 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	ΔV_R	$\Delta V_R=V_R-V_O2$, I_O2=50mA (Note 1)	1.65	1.9	2.2	V
Reset detect hysteresis voltage	ΔV_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	ΔV_M	$\Delta V_M=V_{RM}-V_O2$, I_O2=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	ΔV_{MH}		110	160	210	mV

Note 1 : V_R is the voltage of $V_{IN}2$ at the time reset is turned OFF.
Note 2 : V_M is the voltage of $V_{IN}1$ at the time muting is turned OFF.

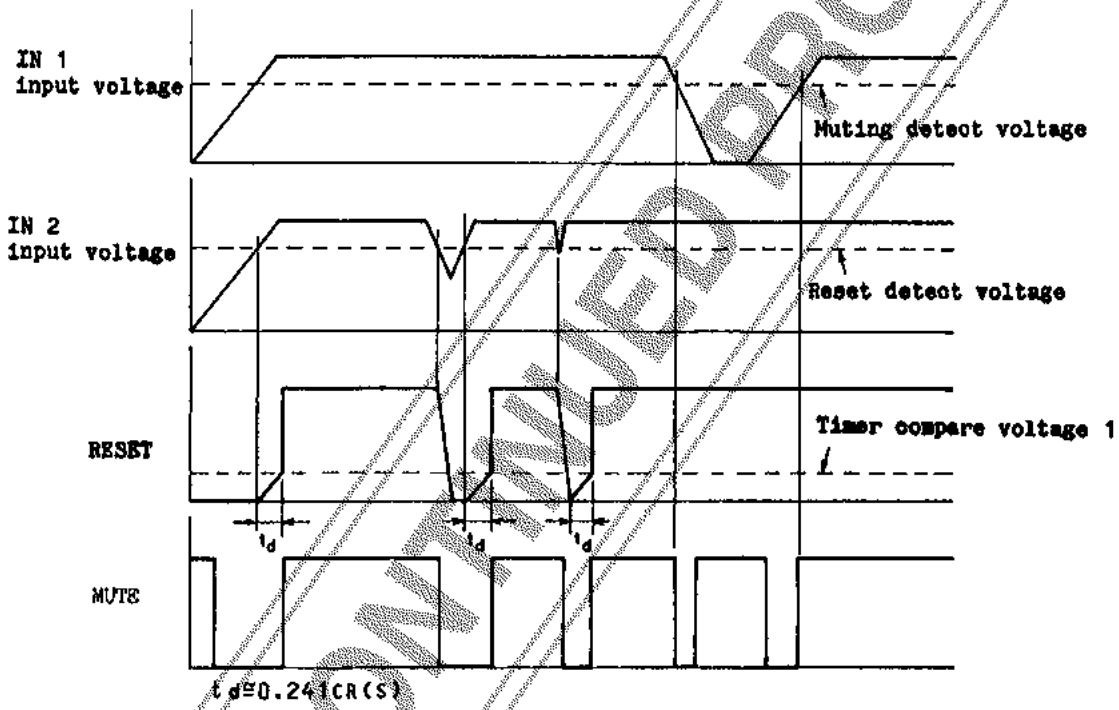
Equivalent Circuit Block Diagram, Pin Assignment, and Peripheral Circuit



Pin No.	Name	Description
1	$V_{IN}1$	Input pin for 13.0V output line
2	GND	Ground
3	RESET	Reset delay time and output pin
4	$V_{IN}2$	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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