

No.2605B

L79M00T Series

- 5 to -12V 0.5A 3-Pin Voltage Regulators

Features

- Output voltage L79M05T: -5V L79M06T: -6V L79M08T: -8V L79M09T: -9V
 L79M10T: -10V L79M12T: -12V
- 500mA output
- Small-sized power package TP-3H permitting the equipment to be made compact
- The allowable power dissipation can be increased by being surface-mounted on the board.
- Capable of being mounted in a variety of methods because of various lead forming versions available
- On-chip protectors (overcurrent limiter, ASO protector, thermal protector)
- Can meet tape-used automatic mounting requirements.

[Common to L79M00T series]

Maximum Ratings at Ta = 25°C

			unit
Maximum Supply Voltage	V _{CC} max	-5 to -12V output	-35 V
Allowable Power Dissipation	P _d max		1.0 W
Operating Temperature	T _{opr}		-30 to +80 °C
Storage Temperature	T _{stg}		-40 to +150 °C

[L79M05T]

Recommended Operating Conditions at Ta = 25°C

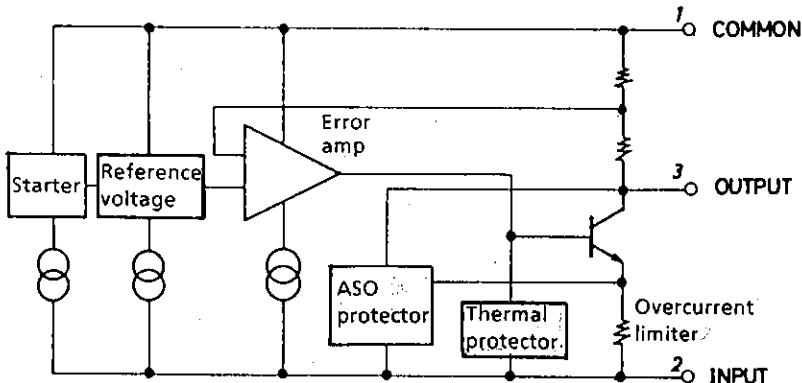
			unit
Input Voltage	V _{IN}	-20 to -7.5	V
Output Current	I _{OUT}	5 to 500	mA

Operating Characteristics at Ta = 25°C, V_{IN} = -10V, I_{OUT} = 350mA, C_{IN} = 2μF, C_{OUT} = 1μF

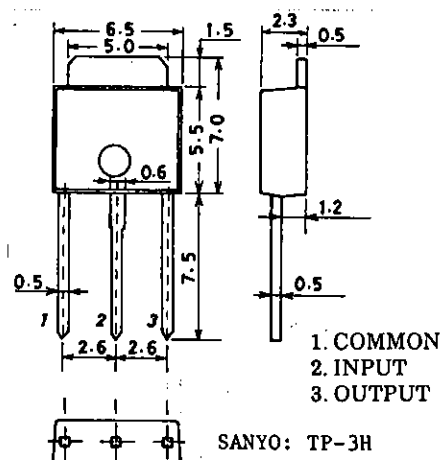
			min	typ	max	unit
Output Voltage	V _{OUT}	T _j = 25°C	-5.2	-5.0	-4.8	V
Line Regulation	ΔV _{oline}	T _j = 25°C, -25V ≤ V _{IN} ≤ -7V		7.0	50	mV
		T _j = 25°C, -18V ≤ V _{IN} ≤ -8V		3.0	30	mV
Load Regulation	ΔV _{oload}	T _j = 25°C, 5mA ≤ I _{OUT} ≤ 500mA		10	100	mV
		T _j = 25°C, 5mA ≤ I _{OUT} ≤ 350mA		5		mV

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Equivalent Circuit



Package Dimensions 3110-S3HIC (unit: mm)



L79M00T Series

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			min	typ	max	unit
Output Voltage	V_{OUT}	$-25V \leq V_{IN} \leq -7V,$ $5mA \leq I_{OUT} \leq 350mA$	-5.25		-4.75	V
Current Dissipation	I_{CC}	$T_j = 25^\circ C$		1.0	2.5	mA
Current Dissipation Variation (Line)	ΔI_{CCline}	$-25V \leq V_{IN} \leq -8V$			1.0	mA
Current Dissipation Variation (Load)	ΔI_{CCload}	$5mA \leq I_{OUT} \leq 350mA$			0.4	mA
Output Noise Voltage	V_{NO}	$10Hz \leq f \leq 100kHz$		125		μV
Ripple Rejection	R_{rej}	$f = 120Hz$ $-18V \leq V_{IN} \leq -8V$ $T_j = 25^\circ C$	$I_{OUT} = 100mA$ 50 $I_{OUT} = 300mA$ 50		65	dB dB
Minimum Input-Output Voltage Drop	V_{drop}	$T_j = 25^\circ C, I_{OUT} = 350mA$		1.1		V
Short Current	I_{OS}	$T_j = 25^\circ C, V_{IN} = -30V$		130		mA
Peak Output Current	I_{op}			800		mA

[L79M06T]

Recommended Operating Conditions at $T_a = 25^\circ C$

				unit
Input Voltage	V_{IN}		-21 to -8.5	V
Output Current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a = 25^\circ C, V_{IN} = -11V, I_{OUT} = 350mA, C_{IN} = 2\mu F, C_{OUT} = 1\mu F$

			min	typ	max	unit
Output Voltage	V_{OUT}	$T_j = 25^\circ C$	-6.25	-6.0	-5.75	V
Line Regulation	ΔV_{oline}	$T_j = 25^\circ C, -25V \leq V_{IN} \leq -8V$		7.0	60	mV
		$T_j = 25^\circ C, -19V \leq V_{IN} \leq -9V$		3.0	40	mV
Load Regulation	ΔV_{oload}	$T_j = 25^\circ C, 5mA \leq I_{OUT} \leq 500mA$		10	120	mV
		$T_j = 25^\circ C, 5mA \leq I_{OUT} \leq 350mA$		5		mV
Output Voltage	V_{OUT}	$-25V \leq V_{IN} \leq -8V,$ $5mA \leq I_{OUT} \leq 350mA$	-6.3		-5.7	V
Current Dissipation	I_{CC}	$T_j = 25^\circ C$		1.0	2.5	mA
Current Dissipation Variation (Line)	ΔI_{CCline}	$-25V \leq V_{IN} \leq -9V$			1.0	mA
Current Dissipation Variation (Load)	ΔI_{CCload}	$5mA \leq I_{OUT} \leq 350mA$			0.4	mA
Output Noise Voltage	V_{NO}	$10Hz \leq f \leq 100kHz$		150		μV
Ripple Rejection	R_{rej}	$f = 120Hz$ $-19V \leq V_{IN} \leq -9V$ $T_j = 25^\circ C$	$I_{OUT} = 100mA$ 50 $I_{OUT} = 300mA$ 50		65	dB dB
Minimum Input-Output Voltage Drop	V_{drop}	$T_j = 25^\circ C, I_{OUT} = 350mA$		1.1		V
Short Current	I_{OS}	$T_j = 25^\circ C, V_{IN} = -30V$		130		mA
Peak Output Current	I_{op}			800		mA

[L79M08T]

Recommended Operating Conditions at $T_a = 25^\circ C$

				unit
Input Voltage	V_{IN}		-23 to -11	V
Output Current	I_{OUT}		5 to 500	mA

L79M00T Series

Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{IN} = -14\text{V}$, $I_{OUT} = 350\text{mA}$, $C_{IN} = 2\mu\text{F}$, $C_{OUT} = 1\mu\text{F}$

			min	typ	max	unit
Output Voltage	V_{OUT}	$T_j = 25^\circ\text{C}$	-8.3	-8.0	-7.7	V
Line Regulation	ΔV_{oline}	$T_j = 25^\circ\text{C}$, $-25\text{V} \leq V_{IN} \leq -10.5\text{V}$		8.0	80	mV
Load Regulation	ΔV_{oload}	$T_j = 25^\circ\text{C}$, $-21\text{V} \leq V_{IN} \leq -11\text{V}$		4.0	50	mV
		$T_j = 25^\circ\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$		11	160	mV
Output Voltage	V_{OUT}	$T_j = 25^\circ\text{C}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	-8.4		-7.6	V
Current Dissipation	I_{CC}	$T_j = 25^\circ\text{C}$		1.0	2.5	mA
Current Dissipation Variation (Line)	ΔI_{CCline}	$-25\text{V} \leq V_{IN} \leq -10.5\text{V}$			1.0	mA
Current Dissipation Variation (Load)	ΔI_{CCload}	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.4	mA
Output Noise Voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		200		μV
Ripple Rejection	R_{rej}	$f = 120\text{Hz}$ $-21.5\text{V} \leq V_{IN} \leq -11.5\text{V}$ $T_j = 25^\circ\text{C}$	$I_{OUT} = 100\text{mA}$	50		dB
			$I_{OUT} = 300\text{mA}$	50	64	dB
Minimum Input-Output Voltage Drop	V_{drop}	$T_j = 25^\circ\text{C}$, $I_{OUT} = 350\text{mA}$		1.1		V
Short Current	I_{OS}	$T_j = 25^\circ\text{C}$, $V_{IN} = -30\text{V}$		130		mA
Peak Output Current	I_{op}			800		mA

[L79M09T]

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

				unit
Input Voltage	V_{IN}		-25 to -12	V
Output Current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{IN} = -16\text{V}$, $I_{OUT} = 350\text{mA}$, $C_{IN} = 2\mu\text{F}$, $C_{OUT} = 1\mu\text{F}$

			min	typ	max	unit
Output Voltage	V_{OUT}	$T_j = 25^\circ\text{C}$	-9.4	-9.0	-8.6	V
Line Regulation	ΔV_{oline}	$T_j = 25^\circ\text{C}$, $-25\text{V} \leq V_{IN} \leq -11.5\text{V}$		8.0	80	mV
Load Regulation	ΔV_{oload}	$T_j = 25^\circ\text{C}$, $-20\text{V} \leq V_{IN} \leq -12\text{V}$		4.0	50	mV
		$T_j = 25^\circ\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$		12	200	mV
Output Voltage	V_{OUT}	$T_j = 25^\circ\text{C}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	-9.5		-8.5	V
Current Dissipation	I_{CC}	$T_j = 25^\circ\text{C}$		1.0	2.5	mA
Current Dissipation Variation (Line)	ΔI_{CCline}	$-25\text{V} \leq V_{IN} \leq -11.5\text{V}$			1.0	mA
Current Dissipation Variation (Load)	ΔI_{CCload}	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.4	mA
Output Noise Voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		225		μV
Ripple Rejection	R_{rej}	$f = 120\text{Hz}$ $-22.5\text{V} \leq V_{IN} \leq -12.5\text{V}$ $T_j = 25^\circ\text{C}$	$I_{OUT} = 100\text{mA}$	50		dB
			$I_{OUT} = 300\text{mA}$	50	63	dB
Minimum Input-Output Voltage Drop	V_{drop}	$T_j = 25^\circ\text{C}$, $I_{OUT} = 350\text{mA}$		1.1		V
Short Current	I_{OS}	$T_j = 25^\circ\text{C}$, $V_{IN} = -30\text{V}$		130		mA
Peak Output Current	I_{op}			800		mA

SANYO	No.2301B	LA5665
	Multifunction Multiple Voltage Regulator	

Use

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

Functions and Features

- . Two independent voltage regulators contained in a single chip (15.5V/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 15.5V output and reset output to deliver the muting signal
(We have the LA5666 whose detection function for reset, muting is provided on the input voltage side.)

Maximum Ratings at Ta=25°C

Input Voltage	$V_{IN1,2}$		35	V
Output Current	$I_{OUT1,2}$	Internal		
Allowable Power Dissipation	P_{dmax}	IC only	1.6	W
Operating Temperature	T_{opr}		-30 to +80	°C
Storage Temperature	T_{stg}		-40 to +125	°C

Operating Conditions at Ta=25°C

Input Voltage	V_{IN1}	$I_{OUT1}=200mA$	19 to 35	V
	V_{IN2}	$I_{OUT2}=50mA$	8.7 to 35	V

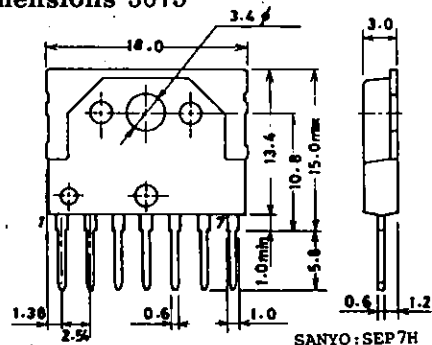
Operating Characteristics at Ta=25°C, $V_{IN1}=20V, V_{IN2}=10V$

			min	typ	max	unit
Quiescent Current	I_{IN1}		1.8	2.8	3.8	mA
	I_{IN2}		3.8	5.8	7.8	mA
Output Voltage	V_{o1}	$I_{OUT1}=200mA$	14.5	15.5	16.5	V
	V_{o2}	$I_{OUT2}=50mA$	5.1	5.6	6.2	V
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

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Package Dimensions 3075

(unit: mm)

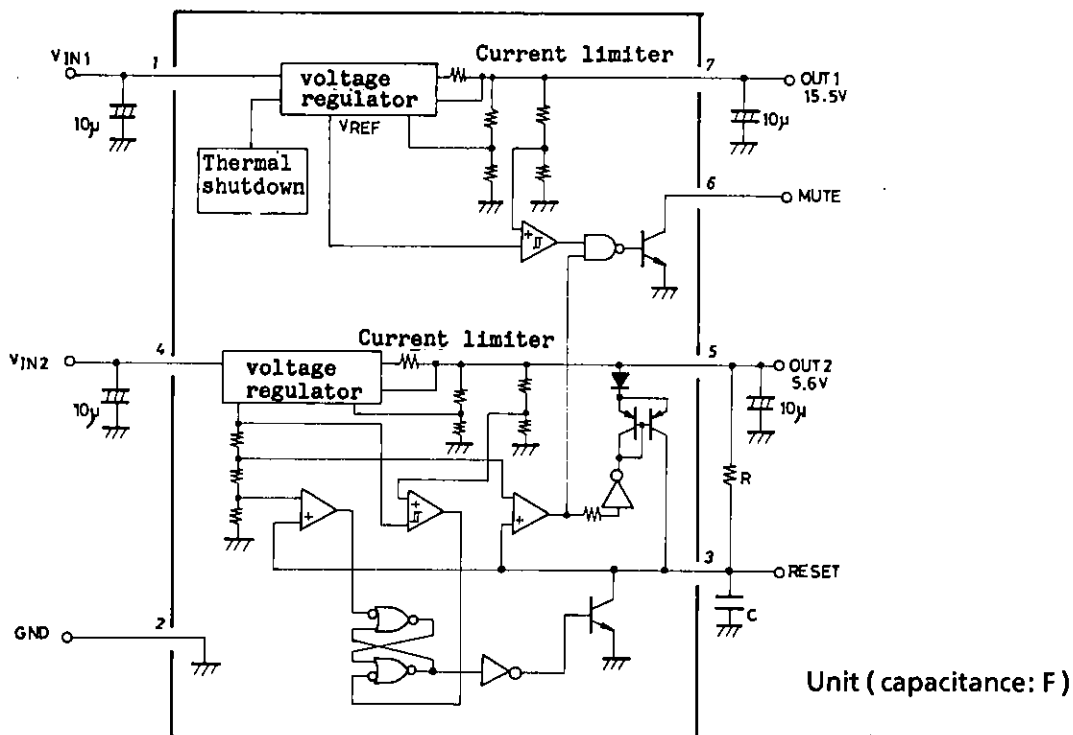


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			min	typ	max	unit
Input-Output Voltage Drop	Vdr1	I _o =200mA		1.6	2.5	V
	Vdr2	I _o =50mA		1.5	2.5	V
Reset Detect Voltage	V _R	(Note 1)	4.9	5.1	5.5	V
Timer Compare Voltage	V _{C1}		1.0	1.2	1.4	V
	V _{C2}		0.06	0.13	0.18	V
Timer Input Bias Current	I _{TB}				250	nA
Muting Detect Voltage	V _M	(Note 2)	13.5	14.5	15.5	V
Muting Output Voltage	V _{OMUTE}	I _{OMUTE} =5mA		0.1	0.15	V

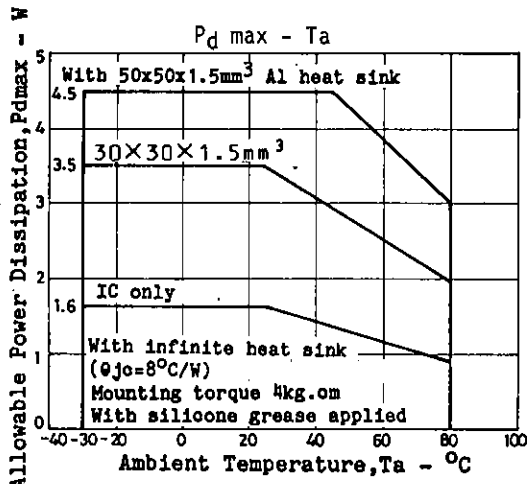
Note 1: V_R is the voltage of V_{O2} at the time reset is turned OFF.
 Note 2: V_M is the voltage of V_{O1} at the time muting is turned OFF.

Equivalent Circuit Block Diagram, Pin Assignment, and Peripheral Circuit

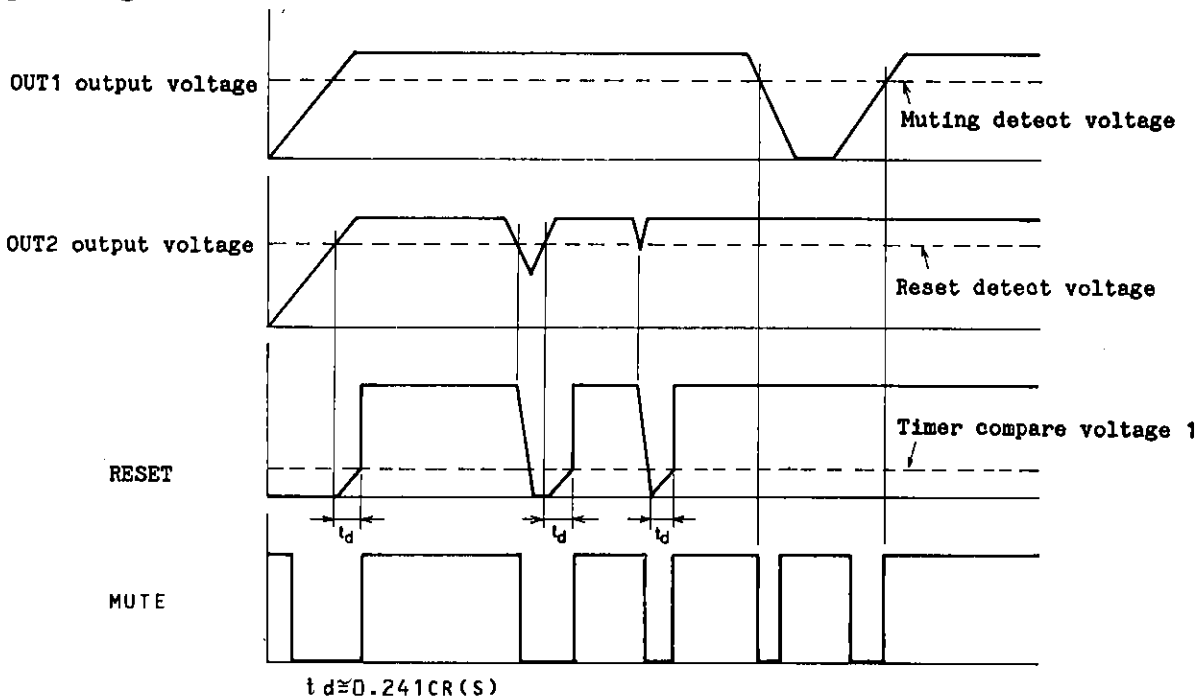


(Note) The reset delay time is set by R, C.

Pin No.	Name	Description
1	V _{IN1}	Input pin for 15.5V 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	15.5V output pin



Operating Waveforms



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