

**SANYO**

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 <sub>CC</sub> max	-5 to -12V output	-35 V
Allowable Power Dissipation	Pd max		1.0 W
Operating Temperature	T <sub>opr</sub>		-30 to +80 °C
Storage Temperature	T <sub>stg</sub>		-40 to +150 °C

[L79M05T]

**Recommended Operating Conditions at Ta=25°C**

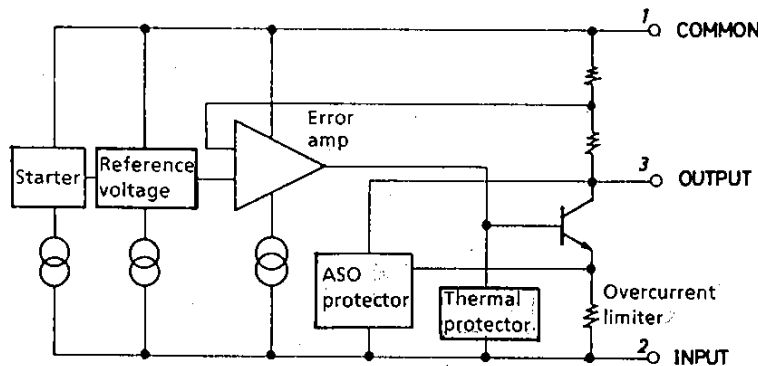
			unit
Input Voltage	V <sub>IN</sub>	-20 to -7.5	V
Output Current	I <sub>OUT</sub>	5 to 500	mA

**Operating Characteristics at Ta=25°C, V<sub>IN</sub>=-10V, I<sub>OUT</sub>=350mA, C<sub>IN</sub>=2μF, C<sub>OUT</sub>=1μF**

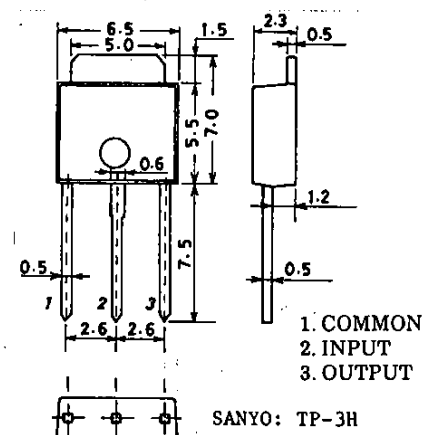
			min	typ	max	unit
Output Voltage	V <sub>OUT</sub>	T <sub>j</sub> =25°C	-5.2	-5.0	-4.8	V
Line Regulation	ΔV <sub>oline</sub>	T <sub>j</sub> =25°C, -25V ≤ V <sub>IN</sub> ≤ -7V		7.0	50	mV
		T <sub>j</sub> =25°C, -18V ≤ V <sub>IN</sub> ≤ -8V		3.0	30	mV
Load Regulation	ΔV <sub>oload</sub>	T <sub>j</sub> =25°C,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

Continued on next page.

**Equivalent Circuit**



**Package Dimensions 3110-S3HIC (unit: mm)**



**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**  
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

D218YT/9237KI/7247TA, TS No.2605-1/5

L79M00T Series

Continued from preceding page.

			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)	$\Delta I_{CCline}$	$-25V \leq V_{IN} \leq -8V$			1.0	mA
Current Dissipation Variation (Load)	$\Delta I_{CCload}$	$5mA \leq I_{OUT} \leq 350mA$			0.4	mA
Output Noise Voltage	$V_{NO}$	$10Hz \leq f \leq 100kHz$		125		$\mu V$
Ripple Rejection	$R_{rej}$	$f = 120Hz$ $-18V \leq V_{IN} \leq -8V$ $T_j = 25^\circ C$	$I_{OUT} = 100mA$ $I_{OUT} = 300mA$	50 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	$\Delta V_{oline}$	$T_j = 25^\circ C, -25V \leq V_{IN} \leq -8V$		7.0	60	mV
		$T_j = 25^\circ C, -19V \leq V_{IN} \leq -9V$		3.0	40	mV
Load Regulation	$\Delta V_{oload}$	$T_j = 25^\circ C, 5mA \leq I_{OUT} \leq 500mA$		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)	$\Delta I_{CCline}$	$-25V \leq V_{IN} \leq -9V$			1.0	mA
Current Dissipation Variation (Load)	$\Delta I_{CCload}$	$5mA \leq I_{OUT} \leq 350mA$			0.4	mA
Output Noise Voltage	$V_{NO}$	$10Hz \leq f \leq 100kHz$		150		$\mu V$
Ripple Rejection	$R_{rej}$	$f = 120Hz$ $-19V \leq V_{IN} \leq -9V$ $T_j = 25^\circ C$	$I_{OUT} = 100mA$ $I_{OUT} = 300mA$	50 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	$\Delta V_{oline}$	$T_j = 25^\circ\text{C}$ , $-25\text{V} \leq V_{IN} \leq -10.5\text{V}$		8.0	80	mV
Load Regulation	$\Delta V_{oload}$	$T_j = 25^\circ\text{C}$ , $-21\text{V} \leq V_{IN} \leq -11\text{V}$		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	$V_{OUT}$	$T_j = 25^\circ\text{C}$ , $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$		6		mV
		$-25\text{V} \leq V_{IN} \leq -10.5\text{V}$ , $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	-8.4		-7.6	V
Current Dissipation	$I_{CC}$	$T_j = 25^\circ\text{C}$		1.0	2.5	mA
Current Dissipation Variation (Line)	$\Delta I_{CCline}$	$-25\text{V} \leq V_{IN} \leq -10.5\text{V}$			1.0	mA
Current Dissipation Variation (Load)	$\Delta I_{CCload}$	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.4	mA
Output Noise Voltage	$V_{NO}$	$10\text{Hz} \leq f \leq 100\text{kHz}$		200		$\mu\text{V}$
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	$\Delta V_{oline}$	$T_j = 25^\circ\text{C}$ , $-25\text{V} \leq V_{IN} \leq -11.5\text{V}$		8.0	80	mV
Load Regulation	$\Delta V_{oload}$	$T_j = 25^\circ\text{C}$ , $-20\text{V} \leq V_{IN} \leq -12\text{V}$		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	$V_{OUT}$	$T_j = 25^\circ\text{C}$ , $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$		7		mV
		$-25\text{V} \leq V_{IN} \leq -11.5\text{V}$ , $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	-9.5		-8.5	V
Current Dissipation	$I_{CC}$	$T_j = 25^\circ\text{C}$		1.0	2.5	mA
Current Dissipation Variation (Line)	$\Delta I_{CCline}$	$-25\text{V} \leq V_{IN} \leq -11.5\text{V}$			1.0	mA
Current Dissipation Variation (Load)	$\Delta I_{CCload}$	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.4	mA
Output Noise Voltage	$V_{NO}$	$10\text{Hz} \leq f \leq 100\text{kHz}$		225		$\mu\text{V}$
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

## L79M00T Series

### [L79M10T]

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

Parameter	Symbol	Value	unit
Input Voltage	$V_{IN}$	-25 to -13	V
Output Current	$I_{OUT}$	5 to 500	mA

#### Operating Characteristics at $T_a = 25^\circ\text{C}, V_{IN} = -17\text{V}, I_{OUT} = 350\text{mA}, C_{IN} = 2\mu\text{F}, C_{OUT} = 1\mu\text{F}$

Parameter	Symbol	Conditions	min	typ	max	unit
Output Voltage	$V_{OUT}$	$T_j = 25^\circ\text{C}$	-10.4	-10	-9.6	V
Line Regulation	$\Delta V_{oline}$	$T_j = 25^\circ\text{C}, -25\text{V} \leq V_{IN} \leq -12.5\text{V}$		9.0	80	mV
Load Regulation	$\Delta V_{oload}$	$T_j = 25^\circ\text{C}, -22\text{V} \leq V_{IN} \leq -13\text{V}$		5.0	50	mV
		$T_j = 25^\circ\text{C}, 5\text{mA} \leq I_{OUT} \leq 500\text{mA}$		12	200	mV
Output Voltage	$V_{OUT}$	$T_j = 25^\circ\text{C}, 5\text{mA} \leq I_{OUT} \leq 350\text{mA}$		7		mV
		$-25\text{V} \leq V_{IN} \leq -12.5\text{V}, 5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	-10.5		-9.5	V
Current Dissipation	$I_{CC}$	$T_j = 25^\circ\text{C}$		1.0	2.5	mA
Current Dissipation Variation (Line)	$\Delta I_{CCline}$	$-25\text{V} \leq V_{IN} \leq -12.5\text{V}$			1.0	mA
Current Dissipation Variation (Load)	$\Delta I_{CCload}$	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.4	mA
Output Noise Voltage	$V_{NO}$	$10\text{Hz} \leq f \leq 100\text{kHz}$		250		$\mu\text{V}$
Ripple Rejection	$R_{rej}$	$f = 120\text{Hz}$ $-23.5\text{V} \leq V_{IN} \leq -13.5\text{V}$ $T_j = 25^\circ\text{C}$	$I_{OUT} = 100\text{mA}$	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

### [L79M12T]

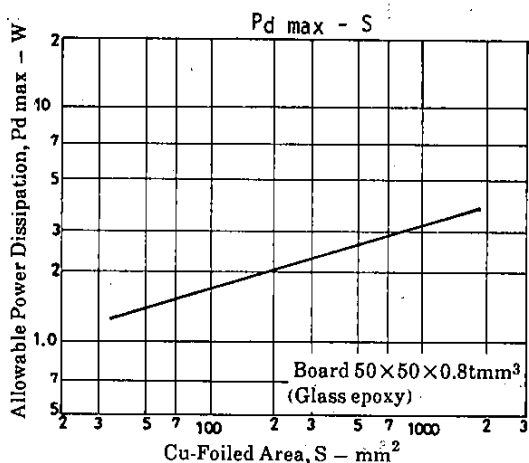
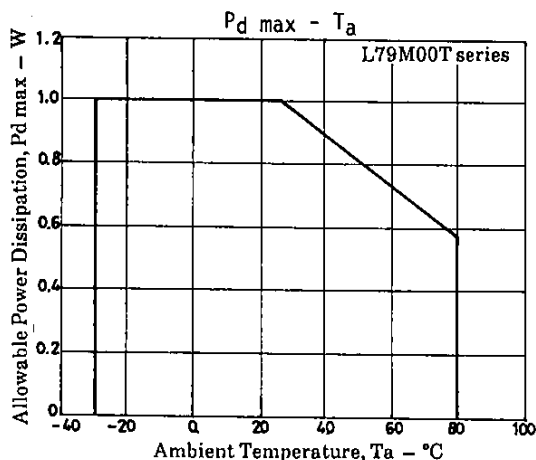
#### Recommended Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	unit
Input Voltage	$V_{IN}$	-25 to -15	V
Output Current	$I_{OUT}$	5 to 500	mA

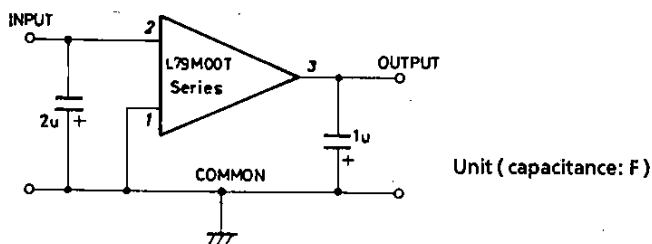
#### Operating Characteristics at $T_a = 25^\circ\text{C}, V_{IN} = -19\text{V}, I_{OUT} = 350\text{mA}, C_{IN} = 2\mu\text{F}, C_{OUT} = 1\mu\text{F}$

Parameter	Symbol	Conditions	min	typ	max	unit
Output Voltage	$V_{OUT}$	$T_j = 25^\circ\text{C}$	-12.5	-12	-11.5	V
Line Regulation	$\Delta V_{oline}$	$T_j = 25^\circ\text{C}, -30\text{V} \leq V_{IN} \leq -14.5\text{V}$		9.0	80	mV
Load Regulation	$\Delta V_{oload}$	$T_j = 25^\circ\text{C}, -25\text{V} \leq V_{IN} \leq -15\text{V}$		5.0	50	mV
		$T_j = 25^\circ\text{C}, 5\text{mA} \leq I_{OUT} \leq 500\text{mA}$		9	240	mV
Output Voltage	$V_{OUT}$	$T_j = 25^\circ\text{C}, 5\text{mA} \leq I_{OUT} \leq 350\text{mA}$		6		mV
		$-30\text{V} \leq V_{IN} \leq -14.5\text{V}, 5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	-12.6		-11.4	V
Current Dissipation	$I_{CC}$	$T_j = 25^\circ\text{C}$		1.6	3.5	mA
Current Dissipation Variation (Line)	$\Delta I_{CCline}$	$-30\text{V} \leq V_{IN} \leq -14.5\text{V}$			1.0	mA
Current Dissipation Variation (Load)	$\Delta I_{CCload}$	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.4	mA
Output Noise Voltage	$V_{NO}$	$10\text{Hz} \leq f \leq 100\text{kHz}$		300		$\mu\text{V}$
Ripple Rejection	$R_{rej}$	$f = 120\text{Hz}$ $-25\text{V} \leq V_{IN} \leq -15\text{V}$ $T_j = 25^\circ\text{C}$	$I_{OUT} = 100\text{mA}$	50		dB
			$I_{OUT} = 300\text{mA}$	50	72	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

## L79M00T Series



### Specified Test Circuit (Common to L79M00T series)



Note) V<sub>IN</sub> max must be in the range specified above, with regulation, etc. considered.

- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
  - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.