TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

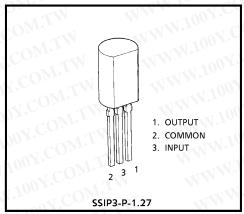
### TA79L005P, TA79L006P, TA79L008P, TA79L009P, TA79L010P TA79L012P, TA79L015P, TA79L018P, TA79L020P, TA79L024P

-5V, -6V, -8V, -9V, -10V, -12V, -15V, -18V, -20V, -24V 3-TERMINAL NEGATIVE VOLTAGE REGULATORS

#### **FEATURES**

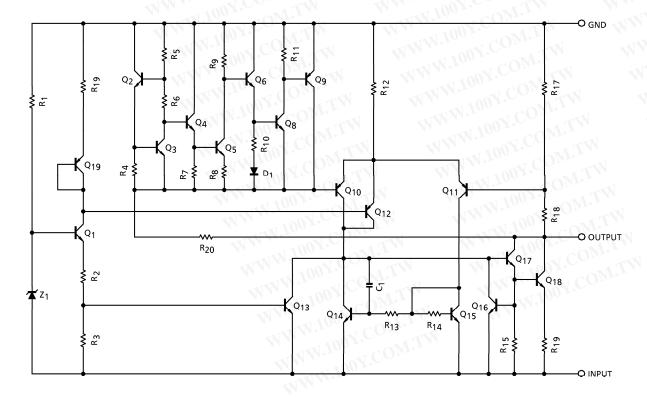
- Best suited to a power supply for TTL and C<sup>2</sup>MOS
- Built-in overcurrent protective circuit
- Built-in thermal protective circuit
- Max. output current 150mA (T<sub>i</sub> = 25°C)
- Packaged in TO-92MOD

勝 特 力 材 料 886-3-5753170 胜特力电子(上海) 86-21-54151736 胜特力电子(深圳) 86-755-83298787 Http://www.100y.com.tw



Weight: 0.36g (Typ.)

### **EQUIVALENT CIRCUIT**



961001EBA2

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### WWW.100Y.COM.TW **MAXIMUM RATINGS** (Ta = 25°C)

CHARACTE	RISTIC	SYMBOL	RATING	UNIT
WWW	TA79L005P	N V	WW. 100X	.Cu
	TA79L006P	W.		COM
	TA79L008P	_ <1		CON
	TA79L009P	IN	<b>– 35</b>	
nput Voltage	TA79L010P	. TV		
TA79L012P		VIN		, V.C
	TA79L015P	M		100
	M T ANT ANT ANT ANT ANT ANT ANT ANT ANT A	W.TW		100 7.
	TA79L020P	WILL	- 40	11007
	TA79L024P	OM		11.
Power Dissipation	(Ta = 25°C)	PD	800	mW
Operating Tempera	ature	Topr	- 30~75	°C
Storage Temperatu	re	T <sub>stg</sub>	<b>-</b> 55∼150	°C
Operating Junction	Temperature	V.C	<ul><li>√ – 30~150</li></ul>	°C
hermal Resistance	TANN TO	R <sub>th</sub> (j-a)	156	°C/W

961001EBA2'

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## TA79L005P

#### **ELECTRICAL CHARACTERISTICS**

(Unless otherwise specified,  $V_{IN}$  = -10V,  $I_{OUT}$  = 40mA,  $C_{IN}$  = 0.33 $\mu$ F,  $C_{OUT}$  = 0.1 $\mu$ F, 0°C  $\leq$   $T_{j}$   $\leq$  125°C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	MMA	EST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	Vout	1	T <sub>i</sub> = 25°C	W. COM TW	- 5.2	- 5.0	- 4.8	V
Line Description W.100	ann.	sia.	T 25°C	$-20V \le V_{ N} \le -7.0V$	_	55	150	ov.CC
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$	$-20V \le V_{1N} \le -8.0V$	_	45	100	mV
Local Demulation	Open Level		T 25°C	1.0mA ≦ I <sub>OUT</sub> ≦ 100mA	Y _	11	60	003.
Load Regulation	Reg. Load	1	$T_j = 25^{\circ}C$	1.0mA≦I <sub>OUT</sub> ≦40mA	W—	5.0	30	mV
Output Voltage	Vout	17	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$		_	- 4.75	V.100Y
MM,	1007.00	Ti	W	1.0mA≦I <sub>OUT</sub> ≦70mA	- 5.25	_	- 4.75	XX 100
0	M. CC	4 - 1	T <sub>i</sub> = 25°C	MAN W. TOON CO.	- <del></del>	3.1	6.0	(01
Quiescent Current	IB	OM.	T <sub>j</sub> = 125°C		_	<u> </u>	5.5	mA
Quiescent Current	<b>⊿</b> I <sub>BI</sub>	11	$-20V \le V_{ N} \le -8.0V$		$O_{\overline{M}^{*}}$	_	1.5	ν <sub>α</sub> Δ
Change	<b>⊿</b> I <sub>BO</sub>	1	1.0mA ≤ I <sub>OUT</sub> ≤ 40mA		OM.	_	0.1	mA
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz≤f≤100kHz		COM	40	_	$\mu$ V $_{rms}$
Long Term Stability	<b>⊿</b> ∨ <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,1}$	A - MMM 100	(.CO)	12	_	mV / 1.0kh
Ripple Rejection Ratio	R.R.	3		/ <sub>IN</sub> ≦ −8.0V f=120Hz	41	49	N _	dB
Dropout Voltage	VIN-VOUT	100	$T_j = 25^{\circ}C$	I.W.I	00 =	1.7	<u> </u>	V
Average Temperature Coefficient of Output Voltage	TCVO	N.10	I <sub>OUT</sub> = 5r	mA W WWW	100 X	0.6	1.1 <del>.1</del> /	mV/°C

## TA79L006P

### **ELECTRICAL CHARACTERISTICS**

(Unless otherwise specified,  $V_{IN} = -11V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C $\leq T_{i} \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	MMA	EST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	Vout	1	T <sub>j</sub> = 25°C		- 6.24	-6.0	- 5.76	V	
Line Description W. 100	" COMP.	-S14	$  -21V \le V_{ N} \le -8.1V$		1 —	50	150	ov.CC	
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$ $21V \le V_{IN} \le -9.0V$		_	45	110	mV	
Land Danielation	OD and and		T 25°C	1.0mA≦I <sub>OUT</sub> ≦ 100mA	<u> </u>	12	70	1007	
Load Regulation	Reg. Load	1	$1j = 25 \text{ C}$ $1.0\text{mA} \le I_{OUT} \le 40\text{mA}$		W-	5.5	35	mV	
Output Voltage	Vout	17	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$ $\begin{vmatrix} -21V \le V_{IN} \le -8.1V \\ 1.0mA \le I_{OUT} \le 40mA \end{vmatrix}$		_	- 5.7	1.100	
MM.	1007.00	TI	N.	1.0mA≦I <sub>OUT</sub> ≦70mA	- 6.3	1	- 5.7	W.100	
Outcome Comment	M. Co	-10	T <sub>j</sub> = 25°C	MAM. TOUX CO.	1 <del>1</del> 1	3.1	6.0	101	
Quiescent Current	IB	$O_{MT}$ .	T <sub>j</sub> = 125°C		Mr.	_	5.5	mA	
Quiescent Current	⊿I <sub>BI</sub>	-dM	$-21V \le V_{ N} \le -9.0V$		$OJ_{\overline{A^*}_F}$		1.5	Van A	
Change	⊿I <sub>BO</sub>	1	1.0mA ≦ I <sub>OUT</sub> ≦ 40mA			_	0.1	mA	
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz≤f≤ 100kHz		COM	40	_	$\mu$ V $_{rms}$	
Long Term Stability	<b>⊿</b> V <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,T}^{M,1}$	M MMM.100	(. <u>CO</u> )	14	_	mV / 1.0kh	
Ripple Rejection Ratio	R.R.	03		/ <sub>IN</sub> ≦ −9.0V f=120Hz	39	47	N_	dB	
Dropout Voltage	VIN-VOUT	700	$T_j = 25^{\circ}C$	III. WINI	00 =	1.7	- <del>-</del> -	V	
Average Temperature Coefficient of Output Voltage	Tcvo	N.100	I <sub>OUT</sub> = 5r	mA W WWW	100 X	0.7	T.LAN	mV / °C	

## TA79L008P

### **ELECTRICAL CHARACTERISTICS**

(Unless otherwise specified,  $V_{IN} = -14V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C  $\leq T_i \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	MM	EST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	Vout	1	T <sub>j</sub> = 25°C		- 8.3	-8.0	- 7.7	V	
Line Devolution W. 100	COMP	-S14	$  -23V \le V_{ N} \le -10.5V$		<u> </u>	20	175	ov.CC	
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$ $23V \le V_{IN} \le -11V$		_	12	125	mV	
Lood Dogulation	Don Look		T. 25°C	1.0mA ≦ I <sub>OUT</sub> ≦ 100mA	Y _	15	80	1007.	
Load Regulation	Reg. Load	1	$T_j = 25^{\circ}C$ $1.0mA \le I_{OUT} \le 40mA$		W-	7.0	40	mV	
Output Voltage	Vout	LTV	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$ $\begin{vmatrix} -23V \le V_{IN} \le -10.5V \\ 1.0mA \le I_{OUT} \le 40mA \end{vmatrix}$		_	- 7.6	1.100	
	100 X.CO	TI	N	1.0mA≦I <sub>OUT</sub> ≦70mA	-8.4	_	- 7.6	N.100	
Outocont Current	I-OUT CO	-10	$T_j = 25^{\circ}C$	MM 100 X.Co.	TV T	3.1	6.5	A	
Quiescent Current	IB	OM.	T <sub>j</sub> = 125°C			<b>N</b> —	6.0	mA	
Quiescent Current	⊿I <sub>BI</sub>	-dM	- 23V≦ V <sub>IN</sub> ≦ - 11V		$O_{\overline{M^*}_T}$	_	1.5	mA	
Change	⊿I <sub>BO</sub>	1	1.0mA ≦ I <sub>OUT</sub> ≦ 40mA		Q41.	_	0.1	IIIA	
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz≤f≤ 100kHz		C <del>O.</del> M	60	_	$\mu$ V $_{rms}$	
Long Term Stability	<b>⊿</b> V <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,1}$	M - MMM 100	r.col	20	_	mV / 1.0kh	
Ripple Rejection Ratio	R.R.	03		/ <sub>IN</sub> ≦ – 12V f = 120Hz	37	45	N_	dB	
Dropout Voltage	VIN-VOUT	700	$T_j = 25^{\circ}C$	In MIN'I	00=	1.7	- <del></del>	V	
Average Temperature Coefficient of Output Voltage	Tcvo	N.100 W.10	I <sub>OUT</sub> = 51	mA W WWW	100 x	0.8	1.1 <del>.11</del>	mV / °C	

## TA79L009P ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{IN} = -15V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C  $\leq T_i \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	MMA	EST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	Vout	1	T <sub>j</sub> = 25°C		- 9.36	- 9.0	- 8.64	V	
Line Devolution W. 100	COMP	-S14	T. 25°C -24V≦V <sub>IN</sub> ≦ -11.4V		1 —	80	200	ov.CC	
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$	- 24V≦V <sub>IN</sub> ≦ - 12V	_	20	160	mV	
Lood Dogulation	Don Look		T <sub>j</sub> = 25°C	1.0mA≦ I <sub>OUT</sub> ≦ 100mA	_	17	90	007	
Load Regulation	Reg. Load	1	7 1.0mA ≥ 10UT ≥ 40mA		W-	8.0	45	mV	
Output Voltage	Vout	LTV	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$		_	- 8.55	1.100	
	100 X.CO	TI	N.	1.0mA≦I <sub>OUT</sub> ≦70mA	- 9.45	-	- 8.55	W.100	
Outocont Current	I-OUT CO	-10	T <sub>j</sub> = 25°C	MANATOR	W <sub>T</sub>	3.2	6.5	(A)	
Quiescent Current	IB	OM.	T <sub>j</sub> = 125°C			<b>1</b> —	6.0	mA	
Quiescent Current	⊿I <sub>BI</sub>	-dM	- 24V≦ V <sub>IN</sub> ≦ - 12V		$O_{\overline{M^*}_T}$	_	1.5	mA	
Change	⊿I <sub>BO</sub>	1	1.0mA ≦ I <sub>OUT</sub> ≦ 40mA		10 <del>1</del> 17	<u> </u>	0.1	IIIA	
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz≤f≤ 100kHz		CQN	65	_	$\mu$ V $_{rms}$	
Long Term Stability	<b>⊿</b> V <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,T}^{M,1}$	M MMM.100	I.CON	21	_	mV / 1.0kh	
Ripple Rejection Ratio	R.R.	03		/ <sub>IN</sub> ≦ – 12V f = 120Hz	36	44	N _	dB	
Dropout Voltage	VIN-VOUT	700	$T_j = 25^{\circ}C$	In MANA	00 =	1.7	- T	V	
Average Temperature Coefficient of Output Voltage	Tcvo	N.100	I <sub>OUT</sub> = 5r	mA W WWW	100 X	0.85	1.1 <del>.1</del> /	mV / °C	

## TA79L010P ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{IN} = -16V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C  $\leq T_i \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	V	EST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	Vout	1	T <sub>j</sub> = 25°C	W. COST. TW	- 10.4	- 10.0	- 9.6	V
Line Demulation	COMP	<b>1</b>	T. 25°C	$-25V \le V_{1N} \le -12.5V$	<u> </u>	80	230	Vac.V
Line Regulation	Reg. Line	1	$T_j = 25^{\circ}C$	- 25V≦ V <sub>IN</sub> ≦ - 13V	<u> </u>	30	170	mV
Load Regulation	Reg. Load	1	T <sub>i</sub> = 25°C	$1.0$ mA $\leq I_{OUT}\leq 100$ mA		18	-100	mV
Load Regulation	Reg. Load	TW	1 <sub>1</sub> = 23 C	$1.0$ mA $\leq$ I $_{OUT}\leq$ 40mA		8.5	45	1007
Output Voltage	Vout	1.1	T <sub>i</sub> = 25°C	$-25V \le V_{ N} \le -12.5V$ 1.0mA \le I <sub>OUT</sub> \le 40mA	- 10.5	_	- 9.5	V.1005
	1100X.CO	TI	N	1.0mA≦I <sub>OUT</sub> ≦70mA	- 10.5	_	- 9.5	W.100
Quiescent Current	N. CC	-1/	$T_j = 25^{\circ}C$	MANATION	WTN	3.2	6.5	mA
Quiescent Current	IB	$O_{MT}$ .	$T_j = 125^{\circ}C$			<u> </u>	6.0	MA
Quiescent Current	⊿I <sub>BI</sub>	11	- 25V≦ V <sub>IN</sub> ≦ - 13V		$0\sqrt{T}$ ,	_	1.5	mA
Change	⊿I <sub>BO</sub>	1	1.0mA≦I <sub>OUT</sub> ≦40mA		$-0$ M $_{\rm J}$		0.1	IIIA
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz≤f≤		COM	70	_	$\mu$ V $_{rms}$
Long Term Stability	∆V <sub>OUT</sub> / ∆t	01.C	$O_{M,1}$	A - MMM 100	(CON	22	_	mV / 1.0kh
Ripple Rejection Ratio	R.R.	3	/\ \	/ <sub>IN</sub> ≦ – 13V f = 120Hz	36	43		dB
Dropout Voltage	VIN-VOUT	100	$T_j = 25^{\circ}C$	I.W.I	00 =	1.7	- T	V
Average Temperature Coefficient of Output Voltage	Tcvo	N.10	I <sub>OUT</sub> = 5r	mA W WWW	100 X	0.9	T.L.A.	mV/°C

# TA79L012P ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{IN} = -19V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C  $\leq T_{i} \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	T. T.	EST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	Vout	1	T <sub>i</sub> = 25°C	W. COST. TW	- 12.5	- 12.0	- 11.5	V	
Line Description W.100	COMP	- 1 a	T 25°C	$-27V \le V_{1N} \le -14.5V$	<del>-</del>	120	250	ov.C	
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$	- 27V≦ V <sub>IN</sub> ≦ - 16V		100	200	mV	
Load Bogulation	Pog. Load	1	T <sub>i</sub> = 25°C	$1.0$ mA $\leq I_{OUT}\leq 100$ mA	_	20	100	1003.	
Load Regulation	Reg. Load	TW	. 1.0MA ≥ 100L ≥ 40MA		W-	10	50	mV	
Output Voltage	Vout	11	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$		_ <	- 11.4	1.100	
	1100 Y.CO	TI	N	1.0mA≦I <sub>OUT</sub> ≦70mA	- 12.6	_	- 11.4	W.100	
Outocont Current	I-OUT CO	4	$T_j = 25^{\circ}C$	MMM. TOUX'CO.	WTI	3.2	6.5	(A)	
Quiescent Current	IB	OM.	T <sub>j</sub> = 125°C			v —	6.0	mA	
Quiescent Current	⊿I <sub>BI</sub>	1	- 27V≦V <sub>IN</sub> ≦ - 16V		$0 j_{\overline{T}}$ ,		1.5	mA	
Change	⊿I <sub>BO</sub>	1	1.0mA≦I <sub>OUT</sub> ≦40mA		OM.)	<u> </u>	0.1	IIIA	
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz ≤ f≤ 100kHz		COM	80	-	$\mu$ V $_{rms}$	
Long Term Stability	<b>⊿</b> V <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,1}$	A - MMM 100	(.CO)	24	_	mV / 1.0kh	
Ripple Rejection Ratio	R.R.	3		/ <sub>IN</sub> ≦ – 15V f = 120Hz	37	42		dB	
Dropout Voltage	VIN-VOUT	7040	$T_j = 25^{\circ}C$	In MINI	00 =	1.7		V	
Average Temperature Coefficient of Output Voltage	Tcvo	1.100 1 (V.10	I <sub>OUT</sub> = 5r	mA W WWW	100 x	1.0	LI <del>IV</del>	mV/°C	

# TA79L015P ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{IN} = -23V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C $\leq T_{i} \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	T	EST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	Vout	1	$T_j = 25$ °C		- 15.6	- 15.0	- 14.4	V	
Line Demilar W.10	COM.	- Sia	T 2506	$-30V \le V_{ N} \le -17.5V$	v —	130	300	ov.CC	
Line Regulation	Reg. Line	1	$T_j = 25^{\circ}C$	-30V≦V <sub>IN</sub> ≦ -20V	_	110	250	mV	
Load Population	Pog. Load		T <sub>i</sub> = 25°C	1.0mA≦I <sub>OUT</sub> ≦ 100mA	N_	25	150	003	
Load Regulation	Reg. Load	1	,   1.0mA ≥ 10UT ≥ 40mA			12	75	mV	
Output Voltage	Vout	11	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$ $\begin{vmatrix} -30V \le V_{IN} \le -17.5V \\ 1.0mA \le I_{OUT} \le 40mA \end{vmatrix}$		_	- 14.25	1.1007	
	1100X.CO	117	11	1.0mA≦I <sub>OUT</sub> ≦70mA	- 15.75	_	- 14.25	W.100	
Outoccont Current	IN. LOOV.CI	-11	$T_j = 25^{\circ}C$			3.3	6.5	ma (A) (	
Quiescent Current	IB	OW	$T_j = 125$ °C			N-	6.0	mA	
Quiescent Current	⊿I <sub>BI</sub>	1	-30V≦V <sub>IN</sub> ≦ -20V		OM.	_	1.5	mA	
Change	<b>⊿</b> I <sub>BO</sub>	1	$1.0\text{mA} \le I_{OUT} \le 40\text{mA}$		- TV		0.1	IIIA	
Output Noise Voltage	V <sub>NO</sub>	2	- 1	Ta = 25°C 10Hz≤f≤100kHz		90	-	$\mu$ V $_{rms}$	
Long Term Stability	⊿V <sub>OUT</sub> / ⊿t	1.0	OM.I.	M - MMM.100	N.CO	30	<del>-</del>	mV / 1.0kh	
Ripple Rejection Ratio	R.R.	3		≦ V <sub>IN</sub> ≦ – 18.5V f = 120Hz	34	39		dB	
Dropout Voltage	VIN-VOUT	110	$T_j = 25^{\circ}C$	TW.	100.	1.7	- X	V	
Average Temperature Coefficient of Output Voltage	Tcvo	N 10'	I <sub>OUT</sub> = 5r	mA W	N:1 <u>0</u> 02	1.3	1. <del>1.</del> N	mV / °C	

# TA79L018P ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{IN} = -27V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C  $\leq T_i \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	T. T.	EST CONDITION	MIN.	TYP.	МАХ.	UNIT
Output Voltage	Vout	1	T <sub>j</sub> = 25°C		- 18.7	- 18.0	- 17.3	V
Line Demokratical W. 100	ZOM.	-s1a	T 25°C	$-33V \le V_{1N} \le 20.7V$	_	32	325	ov.CC
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$	-33V≦V <sub>IN</sub> ≦ -21V	_	27	275	mV
Local Deculation	Open Lead	CAN	T 25°C	1.0mA≦ I <sub>OUT</sub> ≦ 100mA	_	30	170	007.
Load Regulation	Reg. Load	1	$T_j = 25^{\circ}C$	1.0mA≦I <sub>OUT</sub> ≦40mA	<b>N</b> -	15	75	mV
Output Voltage	Vout	1.1 V	T <sub>i</sub> = 25°C	$-33V \le V_{ N} \le -20.9V$	- 18.9		- 17.1	1.1005
	1007.00	TI	N	1.0mA≦I <sub>OUT</sub> ≦70mA	- 18.9	_	- 17.1	-x 100
Www.a.	M. C.C.	N. P.	T <sub>j</sub> = 25°C		-	3.3	6.5	10
Quiescent Current	IB	OM.	T <sub>j</sub> = 125°C			v —	6.0	mA
Quiescent Current	⊿I <sub>BI</sub>	1	-33V≦V <sub>IN</sub> ≦ -21V		$D_{\overline{A}\overline{A}}$	_	1.5	WW.
Change	⊿I <sub>BO</sub>	1	1.0mA≦ I <sub>OUT</sub> ≦ 40mA		<del>-4</del> .7	<u> </u>	0.1	mA
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz ≤ f	≤ 100kHz	COM	150	_	$\mu$ V $_{rms}$
Long Term Stability	<b>⊿</b> ∨ <sub>OUT</sub> / <b>⊿</b> t	01.C	OM.I	M MMM.100	(CO)	45	_	mV / 1.0kh
Ripple Rejection Ratio	R.R.	3		/ <sub>IN</sub> ≦ – 23V f = 120Hz	33	48	N	dB
Dropout Voltage	VIN-VOUT	1(10)	T <sub>i</sub> = 25°C	III WALL	00=	1.7		V
Average Temperature Coefficient of Output Voltage	Tcvo	V-100 VV-10	I <sub>OUT</sub> = 5r	mA W WW	100 X	1.5	l'I <del>A</del> A	mV / °C

# TA79L020P ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{IN} = -29V$ ,  $I_{OUT} = 40 \text{mA}$ ,  $C_{IN} = 0.33 \mu\text{F}$ ,  $C_{OUT} = 0.1 \mu\text{F}$ ,  $0^{\circ}\text{C} \le T_{j} \le 125^{\circ}\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	MMI	EST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	Vout	1	T <sub>j</sub> = 25°C		- 20.8	- 20.0	- 19.2	V	
Line Devolution W. 100	COMP	-S14	$-35V \le V_{ N } \le -23.5V$		1 —	33	330	ov.C	
Line Regulation	Reg. Line	N 1	$T_j = 25^{\circ}C$	-35V≦V <sub>IN</sub> ≦ -24V	_	28	285	mV	
Lood Dogulation	Don Look		T <sub>i</sub> = 25°C	1.0mA≦ I <sub>OUT</sub> ≦ 100mA	_	33	180	1007.	
Load Regulation	Reg. Load	1	. 1.0mA ≥ 1001 ≥ 40mA		W-	17	90	mV	
Output Voltage	Vout	1.1	T <sub>i</sub> = 25°C	$T_j = 25^{\circ}C$ $\begin{vmatrix} -35V \le V_{IN} \le -23.5V \\ 1.0mA \le I_{OUT} \le 40mA \end{vmatrix}$		_	- 19.0	1.00	
	100 X.CO	TI	N	1.0mA≦I <sub>OUT</sub> ≦70mA	- 21.0	_	- 19.0	W.100	
Outocont Current	I-OUT CO	-10	$T_j = 25^{\circ}C$	MANATOR	WTI	3.3	6.5	A \	
Quiescent Current	IB	$O_{MT}$ .	T <sub>j</sub> = 125°C		Mr.	v —	6.0	mA	
Quiescent Current	⊿I <sub>BI</sub>	-dM	-35V≦V <sub>IN</sub> ≦ -24V		$OJ_{\overline{A^*}_F}$	<u> </u>	1.5	mA	
Change	⊿I <sub>BO</sub>	1	$10\text{mA} \le I_{OUT} \le 40\text{mA}$		0 <del>4</del> .7	<u> </u>	0.1	IIIA	
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz ≤ f≤ 100kHz		COM	170	_	$\mu$ V $_{rms}$	
Long Term Stability	<b>⊿</b> V <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,1}$	M MMM.100	(. <u>CO</u> )	49	_	mV / 1.0kh	
Ripple Rejection Ratio	R.R.	03		/ <sub>IN</sub> ≦ − 27V f = 120Hz	31	37	N	dB	
Dropout Voltage	VIN-VOUT	700	$T_j = 25^{\circ}C$	III. WINI	00 =	1.7	<u>- 1</u>	V	
Average Temperature Coefficient of Output Voltage	Tcvo	N.100 W.10	I <sub>OUT</sub> = 5r	mA W WWW	1001	1.7	[] <del>[A</del> ]	mV / °C	

## TA79L024P ELECTRICAL CHARACTERISTICS

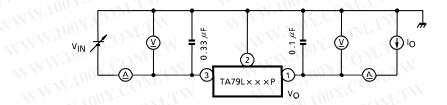
(Unless otherwise specified,  $V_{IN} = -33V$ ,  $I_{OUT} = 40$ mA,  $C_{IN} = 0.33 \mu$ F,  $C_{OUT} = 0.1 \mu$ F,  $0^{\circ}$ C $\leq T_i \leq 125^{\circ}$ C)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	V	EST CONDITION	MIN.	TYP.	МАХ.	UNIT
Output Voltage	Vout	1	T <sub>j</sub> = 25°C	W. COST. TW	- 25.0	- 24.0	- 23.0	V
Line Demulation	COM	<b>1</b>	T. 25°C	-38V≦V <sub>IN</sub> ≦ -27V	<del>-</del>	35	350	mV
Line Regulation	Reg. Line	1	$T_j = 25^{\circ}C$	-38V≦V <sub>IN</sub> ≦ -28V		30	300	o mv
Load Regulation	Reg. Load	1	T <sub>i</sub> = 25°C	$1.0$ mA $\leq I_{OUT}\leq 100$ mA	_	40	200	mV
Load Regulation	Reg. Load	TW	1 <sub>1</sub> = 23 C	$1.0\text{mA} \le I_{OUT} \le 40\text{mA}$		20	100	1007
Output Voltage	Vout	1.1	T <sub>i</sub> = 25°C	$-38V \le V_{\text{IN}} \le -27V$ 1.0mA \le I <sub>OUT</sub> \le 40mA	- 25.2		- 22.8	1.100
	-1100Y.C	TIM	77	$1.0\text{mA} \le I_{OUT} \le 70\text{mA}$	- 25.2	_	- 22.8	XX.100
Quiescent Current	M. Troux.Cr	-1/	$T_j = 25^{\circ}C$	MANATION	WFI	3.5	6.5	mΑ
Quiescent Current	IB	$O_{MT}$ .	T <sub>j</sub> = 125°C			N —	6.0	IIIA
Quiescent Current	<b>⊿</b> I <sub>BI</sub>	11	-38V≦V <sub>IN</sub> ≦ -28V		$0\sqrt{T}$	_	1.5	mA
Change	<b>⊿</b> I <sub>BO</sub>	1	1.0mA≦I <sub>OUT</sub> ≦40mA		OM.		0.1	
Output Noise Voltage	V <sub>NO</sub>	2	Ta = 25°C 10Hz≤f≤		COM	200	_	$\mu$ V $_{rms}$
Long Term Stability	<b>⊿</b> ∨ <sub>OUT</sub> / <b>⊿</b> t	01.C	$O_{M,T,N}^{M,T,N}$	A - MMM'100	(. <u>CO</u> N	56	_	mV / 1.0kh
Ripple Rejection Ratio	R.R.	3	/\ \	/ <sub>IN</sub> ≦ – 29V f = 120Hz	31	47		dB
Dropout Voltage	VIN-VOUT	100	$T_j = 25^{\circ}C$	I.W.I	00 =	1.7	<u>- 1</u>	V
Average Temperature Coefficient of Output Voltage	Tcvo	N.10	I <sub>OUT</sub> = 5r	mA W WWW	100 X	2.0	T.I.A.	mV/°C

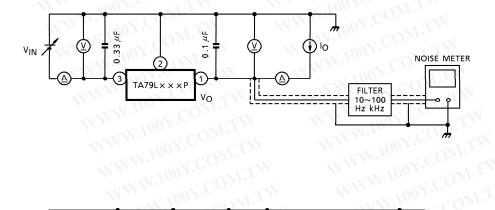
WWW.100Y.CON

## WWW.100Y.COM.TW **TEST CIRCUIT**

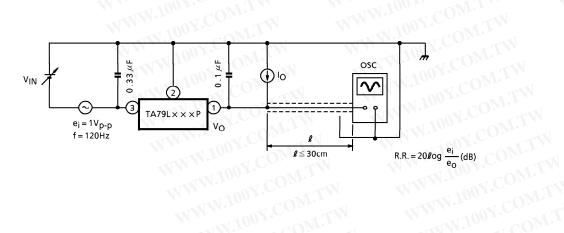
1. VOUT, Reg.line, Reg.load, IB, \( \Delta \text{IB}, \( \Delta \text{VOUT} / \( \Delta \text{t}, \text{|VIN-VOUT|}, \text{TCVO} \)

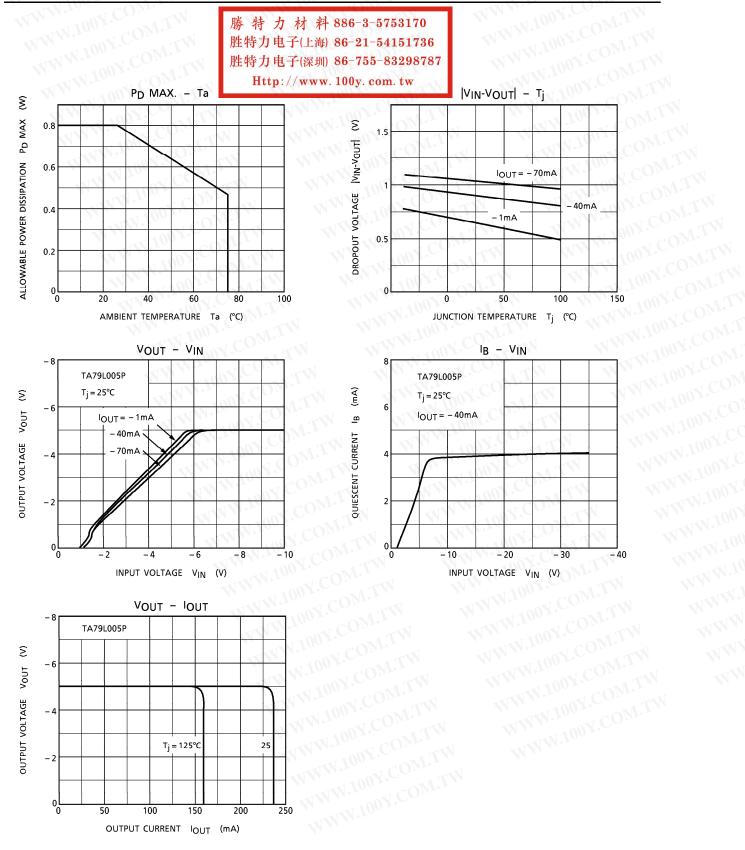


#### 2. V<sub>NO</sub>



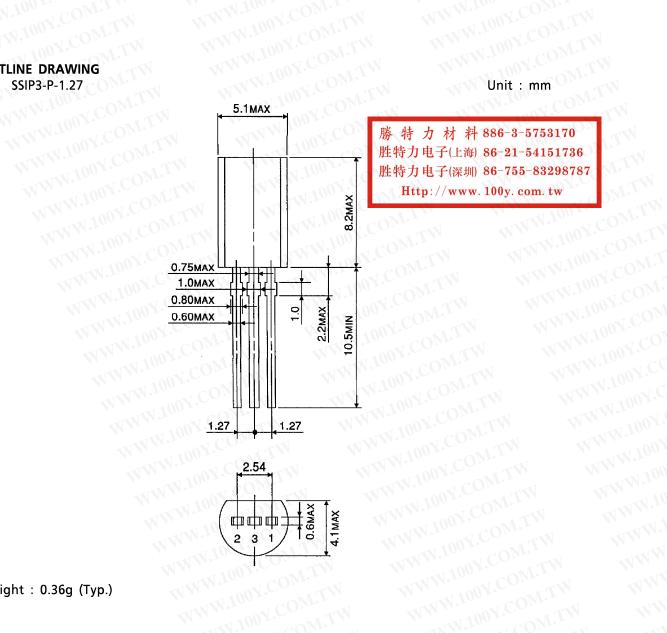
#### 3. R.R.





### WWW.100Y.COM.TW 100Y.COM.TW **OUTLINE DRAWING** SSIP3-P-1.27

MMM.700



Weight: 0.36g (Typ.)