

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

**TA79005SB, TA79006SB, TA79007SB, TA79008SB, TA79009SB, TA79010SB,
TA79012SB, TA79015SB, TA79018SB, TA79020SB, TA79024SB**

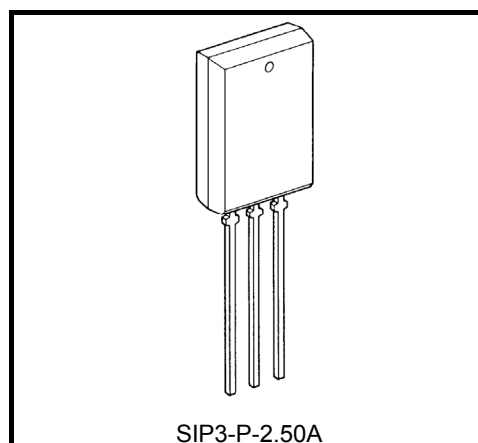
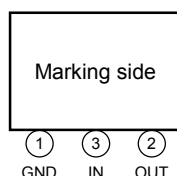
Output Current of 1A, Three-Terminal Negative Voltage Regulators

-5 V, -6 V, -7 V, -8 V, -9 V, -10 V, -12 V, -15 V, -18 V, -20 V, -24 V

Features

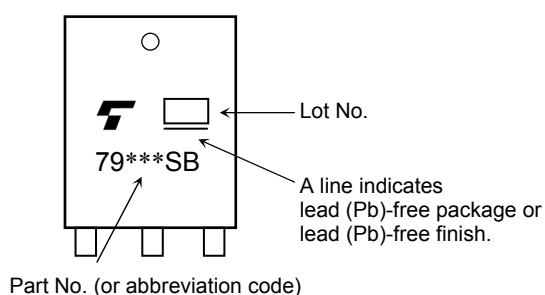
- Suitable for CMOS, TTL, and the and the power supply of other digital ICs
- Internal thermal overload protection
- Internal short circuit current limiting
- Maximum output current of 1.0 A
- Package in the plastic case TPL ($P_D = 1.8 \text{ W}$)

Pin Assignment

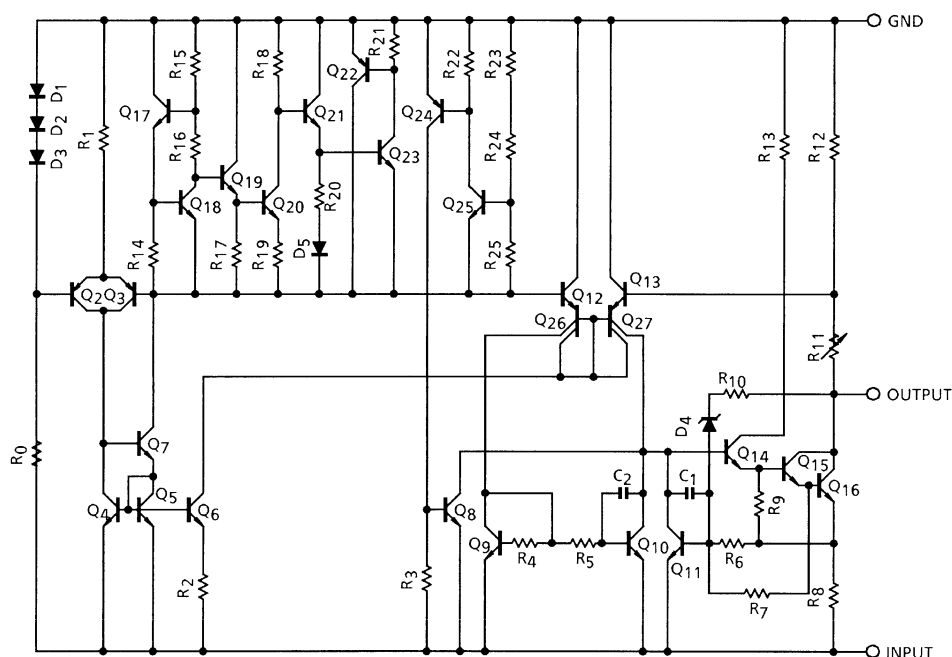


Weight: 1.5 g (typ.)

Marking



Equivalent Circuit



Absolute Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit
Input voltage	TA79005SB	V _{IN}	-35	V
	TA79006SB			
	TA79007SB			
	TA79008SB			
	TA79009SB			
	TA79010SB			
	TA79012SB			
	TA79015SB			
	TA79018SB		-40	
	TA79020SB			
	TA79024SB			
Power dissipation	(Ta = 25°C)	P _D	1.8	W
Operating temperature		T _{opr}	-30~85	°C
Storage temperature		T _{stg}	-55~150	°C
Junction temperature		T _j	150	°C
Thermal resistance		R _{th(j-a)}	69.5	°C/W

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings and the operating ranges.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

TA79005SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -10\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-5.2	-5.0	-4.8	V	
Line regulation		Reg-line	1	T _j = 25°C	-12 V ≤ V _{IN} ≤ -8 V	—	7	50	mV
					-25 V ≤ V _{IN} ≤ -7 V	—	35	100	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	11	100	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	4	50	
Output voltage		V _{OUT}	1	T _j = 25°C	-20 V ≤ V _{IN} ≤ -7 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-5.25	—	-4.75	V
Quiescent current		I _B	1	T _j = 25°C	—	4.3	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-25 V ≤ V _{IN} ≤ -7 V	—	—	1.3	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	40	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	63	70	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA	—	0.6	—	mV/°C	

TA79006SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -11\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-6.25	-6.0	-5.75	V	
Line regulation		Reg-line	1	T _j = 25°C	-13 V ≤ V _{IN} ≤ -9 V	—	9	60	mV
					-25 V ≤ V _{IN} ≤ -8 V	—	43	120	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	13	120	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	5	60	
Output voltage		V _{OUT}	1	T _j = 25°C	-21 V ≤ V _{IN} ≤ -8 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-6.3	—	-5.7	V
Quiescent current		I _B	1	T _j = 25°C	—	4.3	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-25 V ≤ V _{IN} ≤ -8 V	—	—	1.3	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	45	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	61	68	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA	—	0.7	—	mV/°C	

TA79007SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -12\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C		-7.28	-7.0	-6.72	V
Line regulation		Reg-line	1	T _j = 25°C	-15 V ≤ V _{IN} ≤ -10 V	—	10	70	mV
					-25 V ≤ V _{IN} ≤ -9 V	—	45	140	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	20	140	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	7	70	
Output voltage		V _{OUT}	1	T _j = 25°C	-22 V ≤ V _{IN} ≤ -9 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-7.35	—	-6.65	V
Quiescent current		I _B	1	T _j = 25°C		—	4.3	8.0	mA
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-25 V ≤ V _{IN} ≤ -9 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz		—	49	—	μV _{rms}
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C		60	67	—	dB
Short circuit current limit		I _{SC}	1	T _j = 25°C		—	1.9	—	A
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A		—	2.0	—	V
Average temperature coefficient of output voltage		T _{CVO}	1	I _{OUT} = 5.0 mA		—	0.9	—	mV/°C

TA79008SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -14\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-8.3	-8.0	-7.7	V	
Line regulation		Reg-line	1	T _j = 25°C	-17 V ≤ V _{IN} ≤ -11 V	—	11	80	mV
					-25 V ≤ V _{IN} ≤ -10.5 V	—	47	160	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	26	160	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	9	80	
Output voltage		V _{OUT}	1	T _j = 25°C	-23 V ≤ V _{IN} ≤ -10.5 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-8.4	—	-7.6	V
Quiescent current		I _B	1	T _j = 25°C	—	4.3	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-25 V ≤ V _{IN} ≤ -10.5 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	52	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	59	66	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CVO}	1	I _{OUT} = 5.0 mA	—	1.0	—	mV/°C	

TA79009SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -15\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-9.3	-9.0	-8.7	V	
Line regulation		Reg-line	1	T _j = 25°C	-19 V ≤ V _{IN} ≤ -13 V	—	11	82	mV
					-26 V ≤ V _{IN} ≤ -11.5 V	—	48	162	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	33	162	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	11	82	
Output voltage		V _{OUT}	1	T _j = 25°C	-24 V ≤ V _{IN} ≤ -11.5 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-9.4	—	-8.6	V
Quiescent current		I _B	1	T _j = 25°C	—	4.3	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-26.5 V ≤ V _{IN} ≤ -13 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	60	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	57	64	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA	—	1.1	—	mV/°C	

TA79010SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -16\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-10.4	-10.0	-9.6	V	
Line regulation		Reg-line	1	T _j = 25°C	-20 V ≤ V _{IN} ≤ -14 V	—	12	90	mV
					-27 V ≤ V _{IN} ≤ -12.5 V	—	50	180	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	40	180	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	13	90	
Output voltage		V _{OUT}	1	T _j = 25°C	-25 V ≤ V _{IN} ≤ -12.5 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-10.5	—	-9.5	V
Quiescent current		I _B	1	T _j = 25°C	—	4.4	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-27.5 V ≤ V _{IN} ≤ -14 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	65	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	57	63	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CVO}	1	I _{OUT} = 5.0 mA	—	1.3	—	mV/°C	

TA79012SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -19\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-12.5	-12.0	-11.5	V	
Line regulation		Reg-line	1	T _j = 25°C	-22 V ≤ V _{IN} ≤ -16 V	—	13	120	mV
					-30 V ≤ V _{IN} ≤ -14.5 V	—	55	240	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	46	240	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	17	120	
Output voltage		V _{OUT}	1	T _j = 25°C	-27 V ≤ V _{IN} ≤ -14.5 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-12.6	—	-11.4	V
Quiescent current		I _B	1	T _j = 25°C	—	4.4	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-30 V ≤ V _{IN} ≤ -14.5 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	75	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	54	61	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA	—	1.6	—	mV/°C	

TA79015SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -23\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C		-15.6	-15.0	-14.4	V
Line regulation		Reg-line	1	T _j = 25°C	-26 V ≤ V _{IN} ≤ -20 V	—	14	150	mV
					-30 V ≤ V _{IN} ≤ -17.5 V	—	57	300	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	68	300	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	25	150	
Output voltage		V _{OUT}	1	T _j = 25°C	-30 V ≤ V _{IN} ≤ -17.5 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-15.75	—	-14.25	V
Quiescent current		I _B	1	T _j = 25°C		—	4.4	8.0	mA
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-30 V ≤ V _{IN} ≤ -17.5 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz		—	90	—	μV _{rms}
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C		53	60	—	dB
Short circuit current limit		I _{SC}	1	T _j = 25°C		—	1.9	—	A
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A		—	2.0	—	V
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA		—	2.0	—	mV/°C

TA79018SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -27\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-18.7	-18.0	-17.3	V	
Line regulation		Reg-line	1	T _j = 25°C	-30 V ≤ V _{IN} ≤ -24 V	—	25	180	mV
				-33 V ≤ V _{IN} ≤ -21 V	—	80	360		
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	110	360	mV
				250 mA ≤ I _{OUT} ≤ 750 mA	—	55	180		
Output voltage		V _{OUT}	1	T _j = 25°C	-33 V ≤ V _{IN} ≤ -21 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-18.85	—	-17.15	V
Quiescent current		I _B	1	T _j = 25°C	—	4.5	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-33 V ≤ V _{IN} ≤ -21 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz		—	110	—	μV _{rms}
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C		52	59	—	dB
Short circuit current limit		I _{SC}	1	T _j = 25°C		—	1.9	—	A
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A		—	2.0	—	V
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA		—	2.5	—	mV/°C

TA79020SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -30\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C		-20.8	-20.0	-19.2	V
Line regulation		Reg-line	1	T _j = 25°C	-32 V ≤ V _{IN} ≤ -26 V	—	28	180	mV
					-35 V ≤ V _{IN} ≤ -24 V	—	104	360	
Load regulation		Reg-load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	130	360	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	70	180	
Output voltage		V _{OUT}	1	T _j = 25°C	-35 V ≤ V _{IN} ≤ -24 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-21.0	—	-19.0	V
Quiescent current		I _B	1	T _j = 25°C		—	4.6	8.0	mA
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-36.5 V ≤ V _{IN} ≤ -25 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz		—	140	—	μV _{rms}
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C		50	57	—	dB
Short circuit current limit		I _{SC}	1	T _j = 25°C		—	1.9	—	A
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A		—	2.0	—	V
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA		—	3.0	—	mV/°C

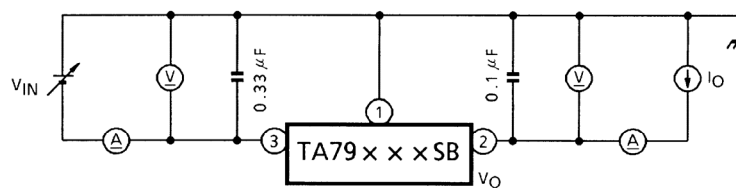
TA79024SB
Electrical Characteristics

 (Unless otherwise specified, $V_{IN} = -33\text{ V}$, $I_{OUT} = 500\text{ mA}$, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Output voltage		V _{OUT}	1	T _j = 25°C	-25.0	-24.0	-23.0	V	
Line regulation		Reg.line	1	T _j = 25°C	-36 V ≤ V _{IN} ≤ -30 V	—	31	240	mV
					-38 V ≤ V _{IN} ≤ -27 V	—	118	480	
Load regulation		Reg.load	1	T _j = 25°C	5 mA ≤ I _{OUT} ≤ 1.5 A	—	150	480	mV
					250 mA ≤ I _{OUT} ≤ 750 mA	—	85	240	
Output voltage		V _{OUT}	1	T _j = 25°C	-38 V ≤ V _{IN} ≤ -27 V, 5 mA ≤ I _{OUT} ≤ 1.0 A	-25.2	—	-22.8	V
Quiescent current		I _B	1	T _j = 25°C	—	4.6	8.0	mA	
Quiescent current change	Line	ΔI _B	1	T _j = 25°C	-38 V ≤ V _{IN} ≤ -27 V	—	—	1.0	mA
	Load		1		5 mA ≤ I _{OUT} ≤ 1.0 A	—	—	0.5	
Output noise voltage		V _{NO}	2	T _a = 25°C, I _{OUT} = 20 mA, 10 Hz ≤ f ≤ 100 kHz	—	170	—	μV _{rms}	
Ripple rejection		R.R.	3	f = 120 Hz, I _{OUT} = 20 mA, T _j = 25°C	49	56	—	dB	
Short circuit current limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Dropout voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0 A	—	2.0	—	V	
Average temperature coefficient of output voltage		T _{CV0}	1	I _{OUT} = 5.0 mA	—	3.5	—	mV/°C	

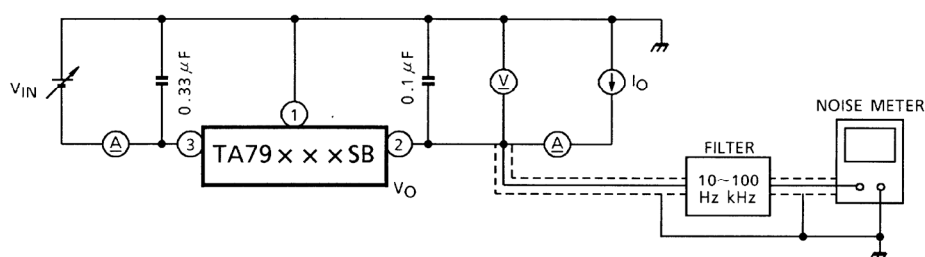
Test Circuit 1

V_{OUT} , Reg·line, Reg·load, I_B , ΔI_B , V_D , T_{CVO}



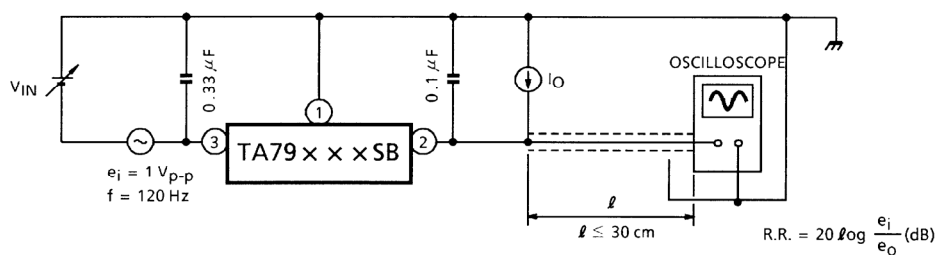
Test Circuit 2

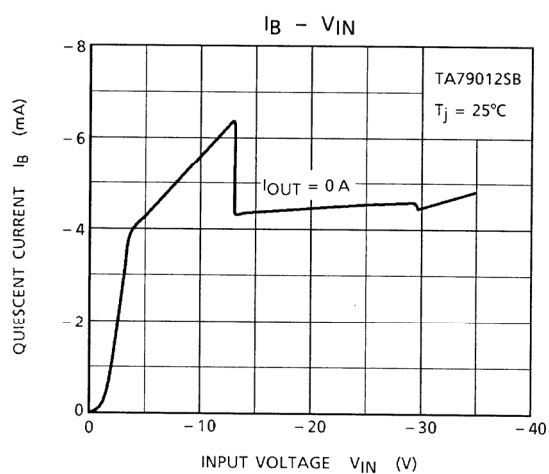
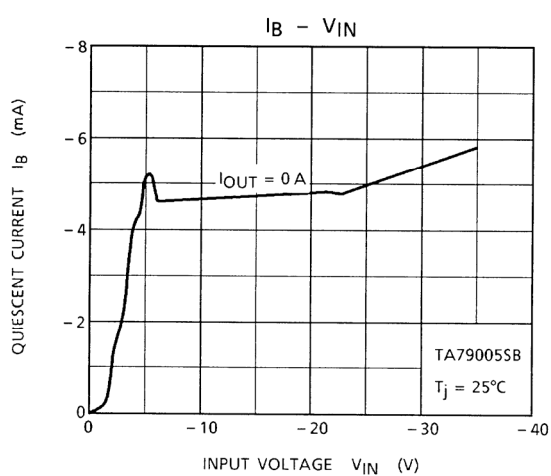
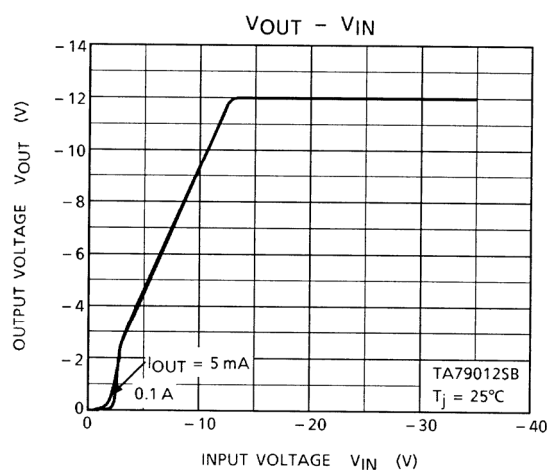
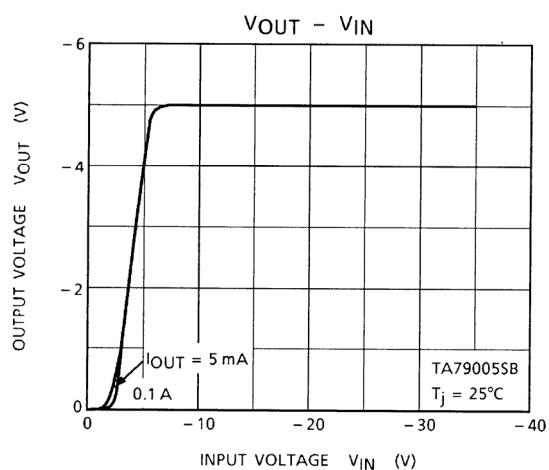
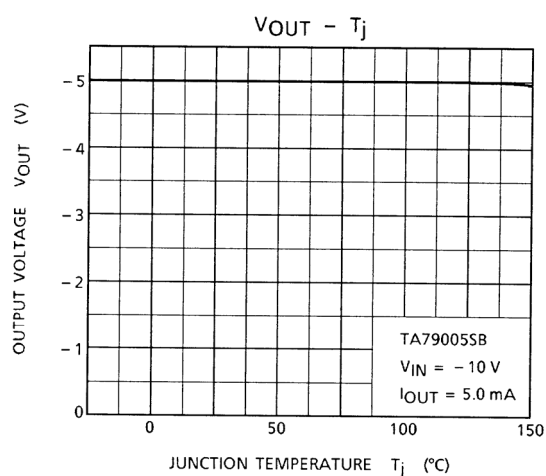
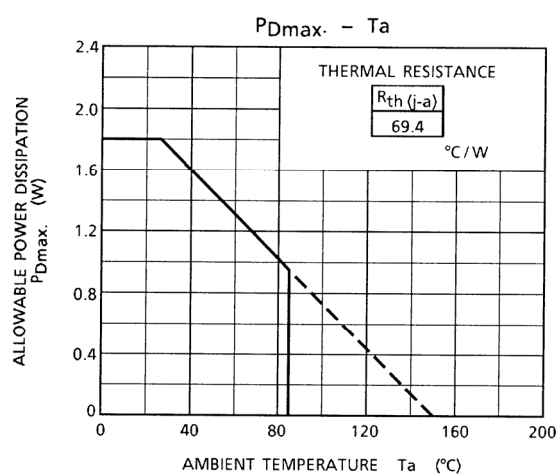
V_{NO}

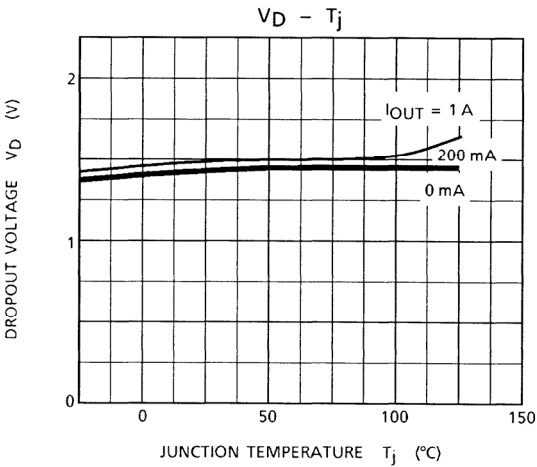
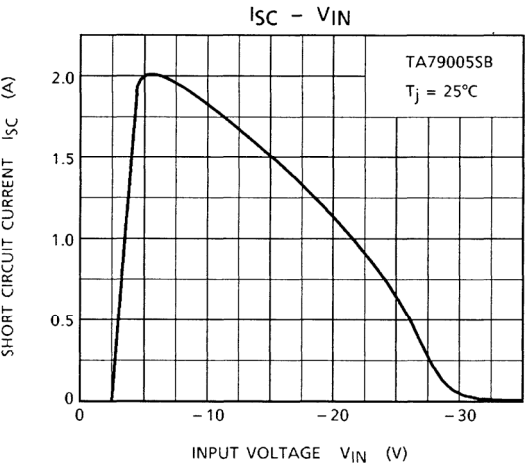
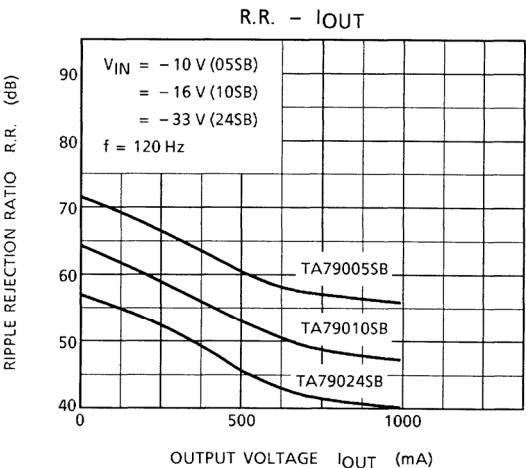
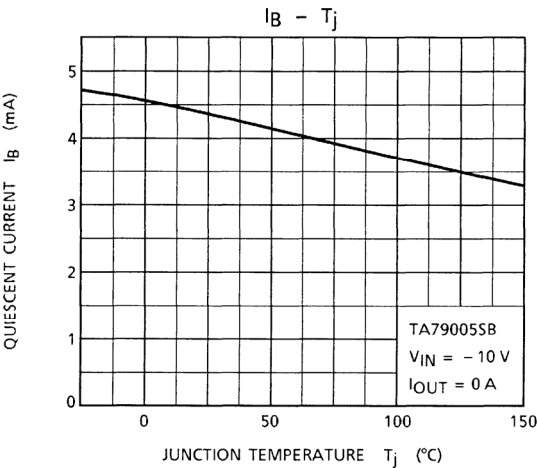


Test Circuit 3

R.R.



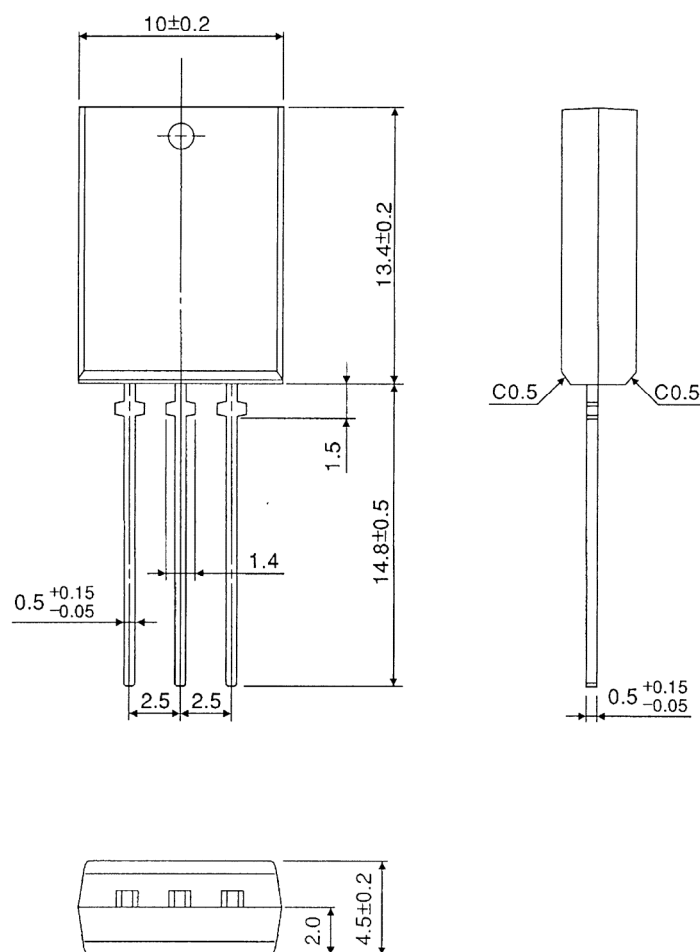




Package Dimensions

SIP3-P-2.50A

Unit : mm



Weight : 1.5 g (Typ.)

RESTRICTIONS ON PRODUCT USE

20070701-EN

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