

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

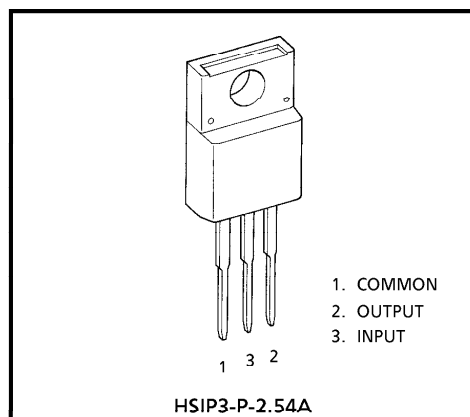
**TA79005S, TA79006S, TA79007S, TA79008S, TA79009S, TA79010S
TA79012S, TA79015S, TA79018S, TA79020S, TA79024S**

1A THREE TERMINAL NEGATIVE VOLTAGE REGULATORS

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

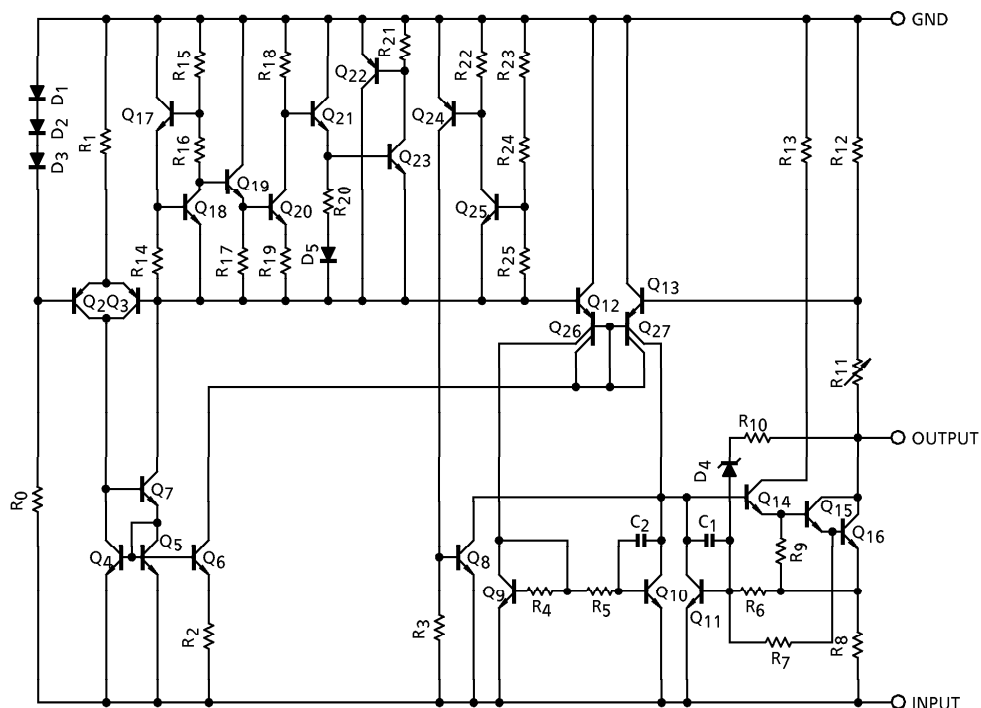
FEATURES

- Suitable for CMOS, TTL, and the other Digital IC Power Supply
- Internal Thermal Overload Protecting
- Internal Short Circuit Current Limiting
- Output Current in Excess of 1.0A
- Metal Fin (Tab) is fully covered with Mold Resin.
(TO-220 NIS package)



Weight : 1.7g (Typ.)

EQUIVALENT CIRCUIT



961001EBA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	TA79005S	V _{IN}	- 35	V
	TA79006S			
	TA79007S			
	TA79008S			
	TA79009S			
	TA79010S			
	TA79012S			
	TA79015S			
	TA79018S		- 40	
	TA79020S			
	TA79024S			
Power Dissipation	(Ta = 25°C)	P _D	2	W
	(Tc = 25°C)		20	
Operating Temperature		T _{opr}	- 30~75	°C
Storage Temperature		T _{stg}	- 55~150	°C
Operating Junction Temperature		T _j	- 30~150	°C
Thermal Resistance		R _{th (j-c)}	6.25	°C / W
		R _{th (j-a)}	62.5	

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- The information contained herein is subject to change without notice.

TA79005S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -10V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	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	- 12V ≤ V _{IN} ≤ - 8V	—	7	50	mV
					- 25V ≤ V _{IN} ≤ - 7V	—	35	100	
Load Regulation		Reg.Load	1	T _j = 25°C	5mA ≤ I _{OUT} ≤ 1.5A	—	11	100	mV
					250mA ≤ I _{OUT} ≤ 750mA	—	4	50	
Output Voltage		V _{OUT}	1	T _j = 25°C	- 20V ≤ V _{IN} ≤ - 7V 5mA ≤ I _{OUT} ≤ 1.0A	- 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	- 25V ≤ V _{IN} ≤ - 7V	—	—	1.3	mA	
	Load	ΔI _{BO}	1	5mA ≤ I _{OUT} ≤ 1.0A	—	—	0.5		
Output Noise Voltage		V _{NO}	2	T _a = 25°C, 10Hz ≤ f ≤ 100kHz	—	40	—	μV _{rms}	
Ripple Rejection		R.R.	3	f = 120Hz, I _{OUT} = 20mA	63	70	—	dB	
Short Circuit Current Limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Average Temperature Coefficient Of Output Voltage		T _{CVO}	1	I _{OUT} = 5.0mA	—	0.6	—	mV / °C	
Dropout Voltage		V _D	1	T _i = 25°C, I _{OUT} = 1.0A	—	2.0	—	V	

TA79006S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -11V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	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	− 13V ≤ V _{IN} ≤ − 9V	—	9	60
					− 25V ≤ V _{IN} ≤ − 8V	—	43	120
Load Regulation		Reg.Load	1	T _j = 25°C	5mA ≤ I _{OUT} ≤ 1.5A	—	13	120
					250mA ≤ I _{OUT} ≤ 750mA	—	5	60
Output Voltage		V _{OUT}	1	T _j = 25°C	− 21V ≤ V _{IN} ≤ − 8V 5mA ≤ I _{OUT} ≤ 1.0A	− 6.3	—	− 5.7
Quiescent Current		I _B	1	T _j = 25°C	—	4.3	8.0	mA
Quiescent Current Change	Line	ΔI _B	1	− 25V ≤ V _{IN} ≤ − 8V	—	—	1.3	mA
	Load	ΔI _{BO}	1	5mA ≤ I _{OUT} ≤ 1.0A	—	—	0.5	
Output Noise Voltage		V _{NO}	2	T _a = 25°C, 10Hz ≤ f ≤ 100kHz	—	45	—	μV _{rms}
Ripple Rejection		R.R.	3	f = 120Hz, I _{OUT} = 20mA	61	68	—	dB
Short Circuit Current Limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage		T _{CVO}	1	I _{OUT} = 5.0mA	—	0.7	—	mV / °C
Dropout Voltage		V _D	1	T _i = 25°C, I _{OUT} = 1.0A	—	2.0	—	V

TA79007S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -12V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-7.28	-7.0	-6.72	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-15V \leq V_{IN} \leq -10V$	—	10	mV
				$-25V \leq V_{IN} \leq -9V$	—	45	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	20	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	7	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-22V \leq V_{IN} \leq -9V$ $5mA \leq I_{OUT} \leq 1.0A$	-7.35	—	-6.65 V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.3	8.0	mA
Quiescent Current Change	Line	1	$-25V \leq V_{IN} \leq -9V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	49	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	60	67	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	0.9	—	mV / $^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

TA79008S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -14V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-8.3	-8.0	-7.7	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-17V \leq V_{IN} \leq -11V$	—	11	mV
				$-25V \leq V_{IN} \leq -10.5V$	—	47	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	26	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	9	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-23V \leq V_{IN} \leq -10.5V$ $5mA \leq I_{OUT} \leq 1.0A$	-8.4	—	-7.6 V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.3	8.0	mA
Quiescent Current Change	Line	1	$-25V \leq V_{IN} \leq -10.5V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	52	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	59	66	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	1.0	—	mV / $^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

TA79009S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -15V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-9.3	-9.0	-8.7	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-19V \leq V_{IN} \leq -13V$	—	11	mV
				$-26V \leq V_{IN} \leq -11.5V$	—	48	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	33	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	11	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-24V \leq V_{IN} \leq -11.5V$ $5mA \leq I_{OUT} \leq 1.0A$	-9.4	—	-8.6 V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.3	8.0	mA
Quiescent Current Change	Line	1	$-26.5V \leq V_{IN} \leq -13V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	60	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	57	64	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	1.1	—	mV / $^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

TA79010S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -16V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-10.4	-10	-9.6	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-20V \leq V_{IN} \leq -14V$	—	12	mV
				$-27V \leq V_{IN} \leq -12.5V$	—	50	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	40	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	13	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-25V \leq V_{IN} \leq -12.5V$ $5mA \leq I_{OUT} \leq 1.0A$	-10.5	—	-9.5 V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.4	8.0	mA
Quiescent Current Change	Line	1	$-27.5V \leq V_{IN} \leq -14V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	65	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	57	63	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	1.3	—	mV / $^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

TA79012S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -19V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-12.5	-12	-11.5	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-22V \leq V_{IN} \leq -16V$	—	13	mV
				$-30V \leq V_{IN} \leq -14.5V$	—	55	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	46	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	17	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-27V \leq V_{IN} \leq -14.5V$ $5mA \leq I_{OUT} \leq 1.0A$	-12.6	—	V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.4	8.0	mA
Quiescent Current Change	Line	1	$-30V \leq V_{IN} \leq -14.5V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	75	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	54	61	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	1.6	—	mV / $^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

TA79015S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -23V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		V _{OUT}	1	T _j = 25°C	− 15.6	− 15	− 14.4	V	
Line Regulation		Reg.Line	1	T _j = 25°C	− 26V ≤ V _{IN} ≤ − 20V	—	14	150	mV
					− 30V ≤ V _{IN} ≤ − 17.5V	—	57	300	
Load Regulation		Reg.Load	1	T _j = 25°C	5mA ≤ I _{OUT} ≤ 1.5A	—	68	300	mV
					250mA ≤ I _{OUT} ≤ 750mA	—	25	150	
Output Voltage		V _{OUT}	1	T _j = 25°C	− 30V ≤ V _{IN} ≤ − 17.5V 5mA ≤ I _{OUT} ≤ 1.0A	− 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	− 30V ≤ V _{IN} ≤ − 17.5V	—	—	1.0	mA	
	Load	ΔI _{BO}	1	5mA ≤ I _{OUT} ≤ 1.0A	—	—	0.5		
Output Noise Voltage		V _{NO}	2	T _a = 25°C, 10Hz ≤ f ≤ 100kHz	—	90	—	μV _{rms}	
Ripple Rejection		R.R.	3	f = 120Hz, I _{OUT} = 20mA	53	60	—	dB	
Short Circuit Current Limit		I _{SC}	1	T _j = 25°C	—	1.9	—	A	
Average Temperature Coefficient Of Output Voltage		T _{CVO}	1	I _{OUT} = 5.0mA	—	2.0	—	mV / °C	
Dropout Voltage		V _D	1	T _j = 25°C, I _{OUT} = 1.0A	—	2.0	—	V	

TA79018S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -27V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-18.7	-18	-17.3	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	-	25	180	mV
			$-30V \leq V_{IN} \leq -24V$ $-33V \leq V_{IN} \leq -21V$	-	80	360	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	-	110	360	mV
			$5mA \leq I_{OUT} \leq 1.5A$ $250mA \leq I_{OUT} \leq 750mA$	-	55	180	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$ $-33V \leq V_{IN} \leq -21V$ $5mA \leq I_{OUT} \leq 1.0A$	-18.85	-	-17.15	V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	-	4.5	8.0	mA
Quiescent Current Change	Line	1	$-33V \leq V_{IN} \leq -21V$	-	-	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	-	-	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	-	110	-	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	52	59	-	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	-	1.9	-	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	-	2.5	-	$mV/^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	-	2.0	-	V

TA79020S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -30V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-20.8	-20	-19.2	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-32V \leq V_{IN} \leq -26V$	—	28	mV
				$-35V \leq V_{IN} \leq -24V$	—	104	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	130	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	70	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-35V \leq V_{IN} \leq -24V$ $5mA \leq I_{OUT} \leq 1.0A$	-21.0	—	-19.0 V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.6	8.0	mA
Quiescent Current Change	Line	1	$-36.5V \leq V_{IN} \leq -25V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	140	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	50	57	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	3.0	—	mV / $^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

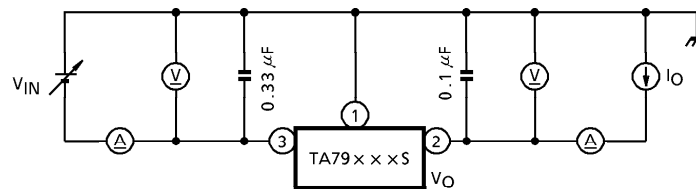
TA79024S

ELECTRICAL CHARACTERISTICS(Unless otherwise specified, $V_{IN} = -33V$, $I_{OUT} = 500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{IN} = 1.0\mu F$, $C_{OUT} = 1.0\mu F$)

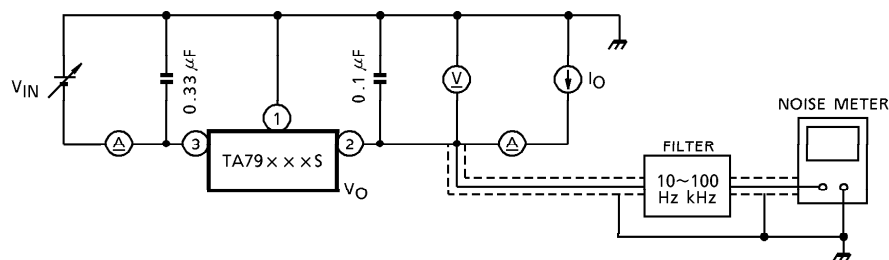
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	-25.0	-24	-23.0	V
Line Regulation	Reg.Line	1	$T_j = 25^{\circ}C$	$-36V \leq V_{IN} \leq -30V$	—	31	mV
				$-38V \leq V_{IN} \leq -27V$	—	118	
Load Regulation	Reg.Load	1	$T_j = 25^{\circ}C$	$5mA \leq I_{OUT} \leq 1.5A$	—	150	mV
				$250mA \leq I_{OUT} \leq 750mA$	—	85	
Output Voltage	V_{OUT}	1	$T_j = 25^{\circ}C$	$-38V \leq V_{IN} \leq -27V$ $5mA \leq I_{OUT} \leq 1.0A$	-25.2	—	-22.8 V
Quiescent Current	I_B	1	$T_j = 25^{\circ}C$	—	4.6	8.0	mA
Quiescent Current Change	Line	1	$-38V \leq V_{IN} \leq -27V$	—	—	1.0	mA
	Load	1	$5mA \leq I_{OUT} \leq 1.0A$	—	—	0.5	
Output Noise Voltage	V_{NO}	2	$T_a = 25^{\circ}C$, $10Hz \leq f \leq 100kHz$	—	170	—	μV_{rms}
Ripple Rejection	R.R.	3	$f = 120Hz$, $I_{OUT} = 20mA$	49	56	—	dB
Short Circuit Current Limit	I_{SC}	1	$T_j = 25^{\circ}C$	—	1.9	—	A
Average Temperature Coefficient Of Output Voltage	T_{CVO}	1	$I_{OUT} = 5.0mA$	—	3.5	—	$mV/^{\circ}C$
Dropout Voltage	V_D	1	$T_j = 25^{\circ}C$, $I_{OUT} = 1.0A$	—	2.0	—	V

TEST CIRCUIT

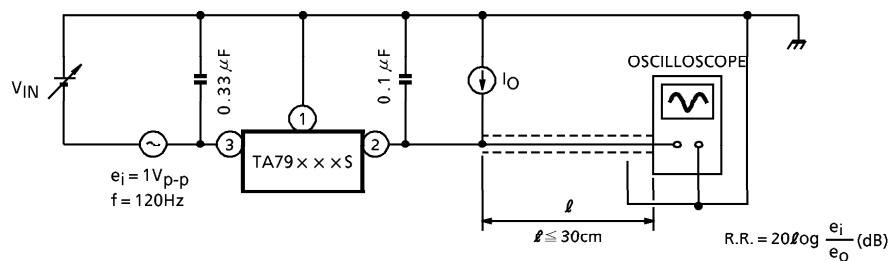
1. V_{OUT} , Reg.line, Reg.load, I_B , ΔI_B , V_D , T_{CVO}

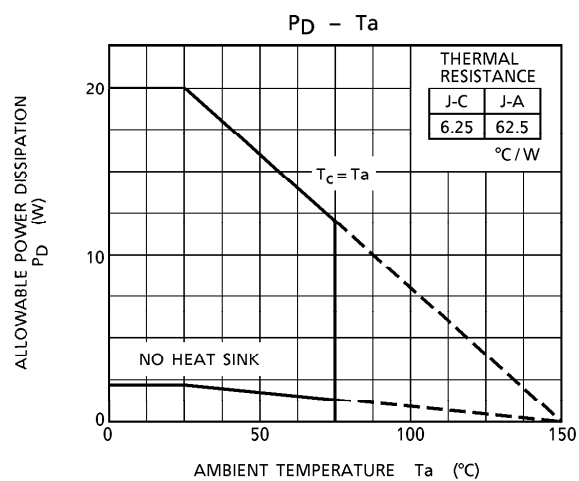
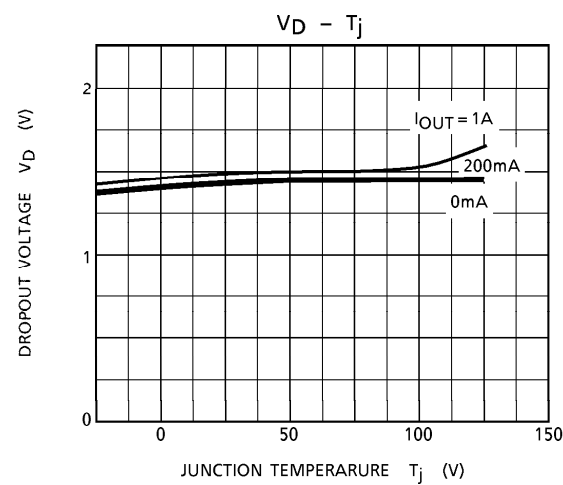
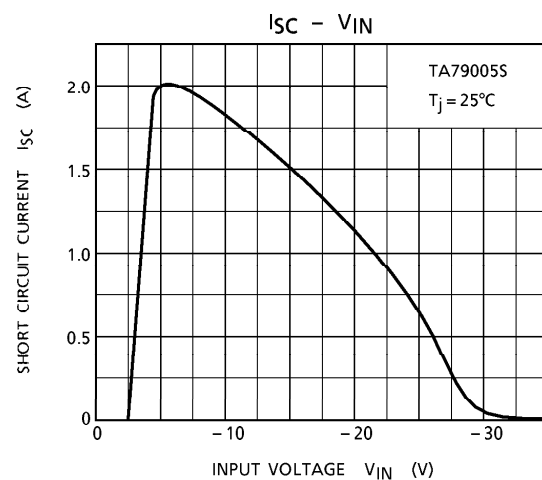
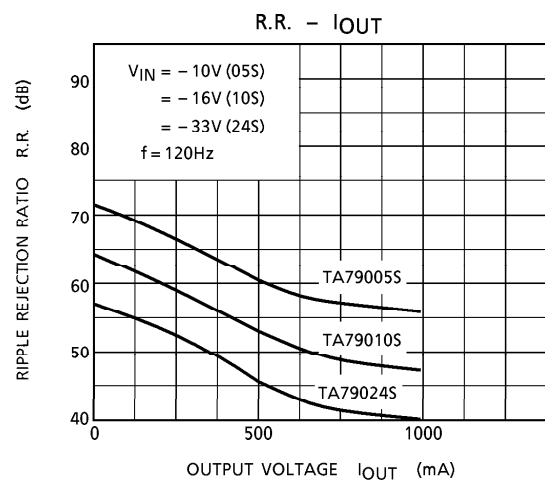
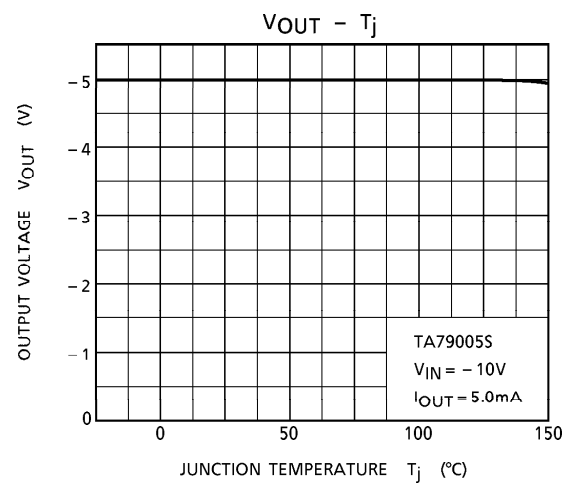
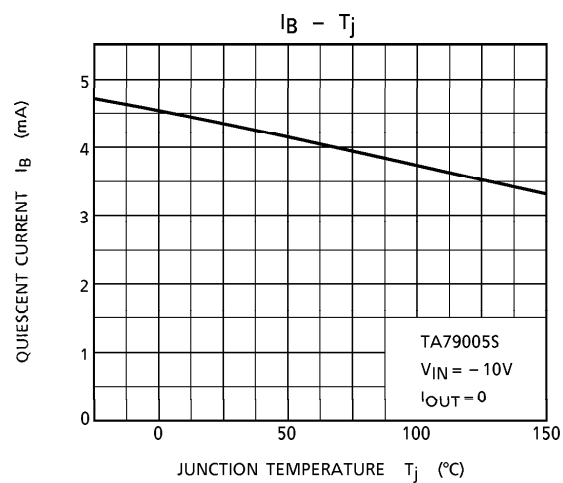


2. V_{NO}



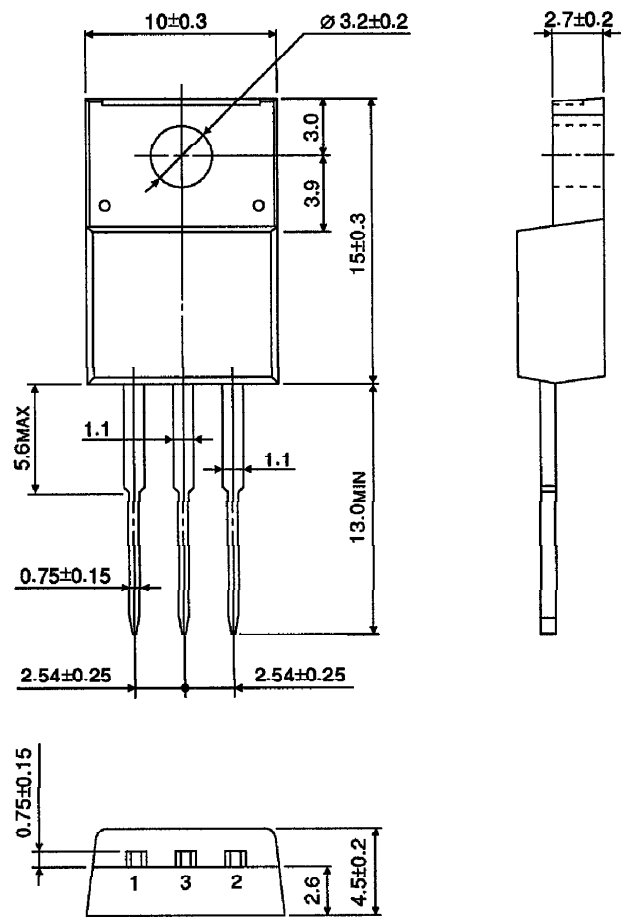
3. R.R.





OUTLINE DRAWING
HSIP3-P-2.54A

Unit : mm



Weight : 1.7g (Typ.)