TOSHIBA
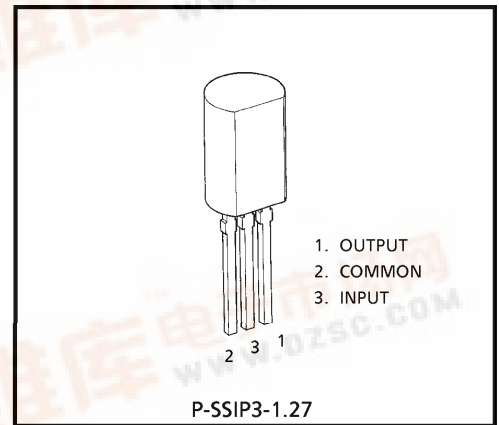## TA79L005,006,008,009,010,012,015,018,020,024P

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT   SILICON MONOLITHIC

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

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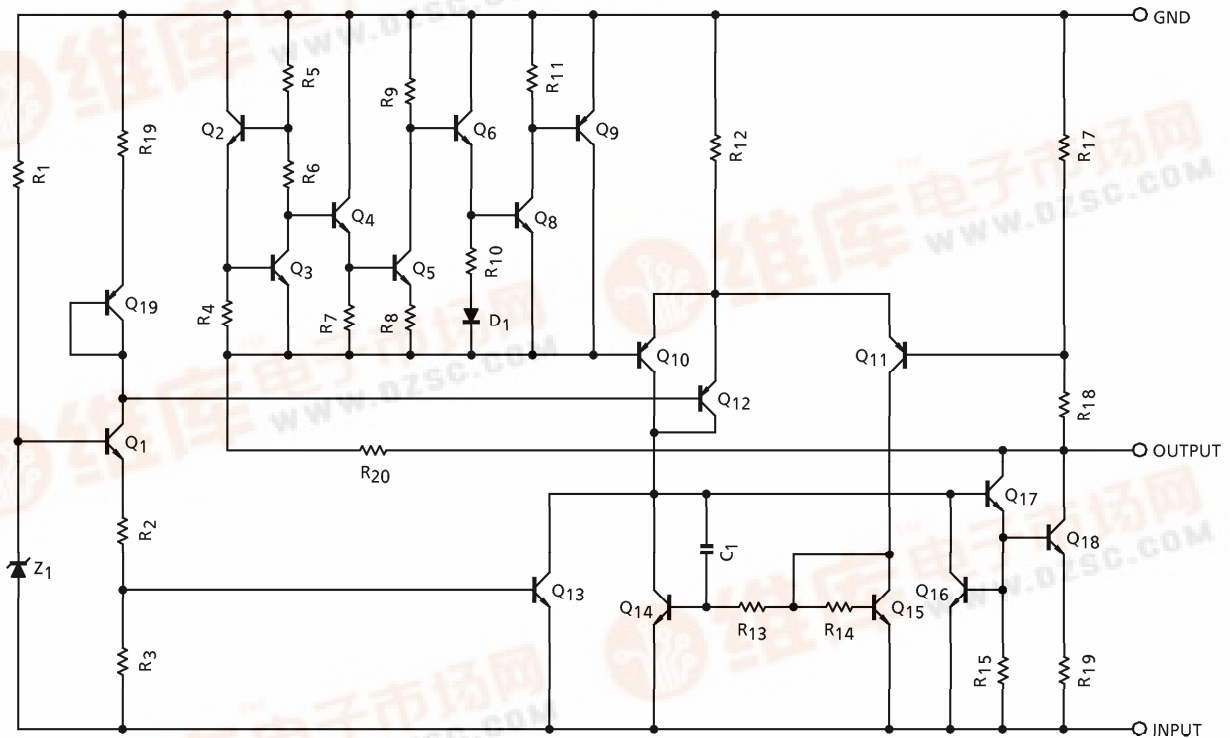## – 24 V 3-TERMINAL NEGATIVE VOLTAGE REGULATORS

FEATURES

- Best suited to a power supply for TTL and C²MOS

- Built-in overcurrent protective circuit

- Built-in thermal protective circuit

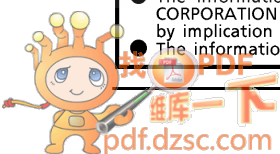- Max. output current 150 mA (T_j = 25°C)

- Packaged in TO-92MOD

1. OUTPUT
2. COMMON
3. INPUT

P-SSIP3-1.27

Weight : 0.36 g (Typ.)

EQUIVALENT CIRCUIT

980910EBA2

TOSHIBA

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	TA79L005P	V_{IN}	− 35	V
	TA79L006P			
	TA79L008P			
	TA79L009P			
	TA79L010P			
	TA79L012P			
	TA79L015P			
	TA79L018P		− 40	
	TA79L020P			
	TA79L024P			
Power Dissipation	(Ta = 25°C)	P_D	800	mW
Operating Temperature		T_{opr}	− 30~85	°C
Storage Temperature		T_{stg}	− 55~150	°C
Junction Temperature		T_j	150	°C
Thermal Resistance		$R_{th (j-a)}$	156	°C / W

TA79L005P

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

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	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	$T_j = 25°C$	$-20\,V \leq V_{IN} \leq -7.0\,V$	—	55	150	mV
				$-20\,V \leq V_{IN} \leq -8.0\,V$	—	45	100	
Load Regulation	Reg·Load	1	$T_j = 25°C$	$1.0\,mA \leq I_{OUT} \leq 100\,mA$	—	11	60	mV
				$1.0\,mA \leq I_{OUT} \leq 40\,mA$	—	5.0	30	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	$-20\,V \leq V_{IN} \leq -7.0\,V$ $1.0\,mA \leq I_{OUT} \leq 40\,mA$	-5.25	—	-4.75	V
				$1.0\,mA \leq I_{OUT} \leq 70\,mA$	-5.25	—	-4.75	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.1	6.0	mA
			$T_j = 125°C$		—	—	5.5	
Quiescent Current Change	ΔI_{BI}	1	$-20\,V \leq V_{IN} \leq -8.0\,V$, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	$1.0\,mA \leq I_{OUT} \leq 40\,mA$, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ $10Hz \leq f \leq 100\,kHz$		—	40	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	12	—	mV / kh
Ripple Rejection Ratio	R.R.	3	$-18\,V \leq V_{IN} \leq -8.0\,V$ $T_j = 25°C$, $f = 120$ Hz		41	49	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5$ mA		—	0.6	—	mV / °C

TA79L006P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{IN} = -11\,V$, $I_{OUT} = 40\,mA$, $C_{IN} = 0.33\,\mu F$, $C_{OUT} = 0.1\,\mu F$, $0°C \leqq T_j \leqq 125°C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25°C$		-6.24	-6.0	-5.76	V
Line Regulation	Reg·Line	1	$T_j = 25°C$	$-21\,V \leqq V_{IN} \leqq -8.1\,V$	—	50	150	mV
				$-21\,V \leqq V_{IN} \leqq -9.0\,V$	—	45	110	
Load Regulation	Reg·Load	1	$T_j = 25°C$	$1.0\,mA \leqq I_{OUT} \leqq 100\,mA$	—	12	70	mV
				$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	—	5.5	35	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	$-21\,V \leqq V_{IN} \leqq -8.1\,V$ $1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	-6.3	—	-5.7	V
				$1.0\,mA \leqq I_{OUT} \leqq 70\,mA$	-6.3	—	-5.7	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.1	6.0	mA
			$T_j = 125°C$		—	—	5.5	
Quiescent Current Change	ΔI_{BI}	1	$-21\,V \leqq V_{IN} \leqq -9.0\,V$, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ $10Hz \leqq f \leqq 100\,kHz$		—	40	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	14	—	mV/kh
Ripple Rejection Ratio	R.R.	3	$-19\,V \leqq V_{IN} \leqq -9.0\,V$ $T_j = 25°C$, $f = 120\,Hz$		39	47	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5\,mA$		—	0.7	—	mV/°C

TA79L008P

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

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	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	$T_j = 25°C$	$-23\,V \leq V_{IN} \leq -10.5\,V$	—	20	175	mV
				$-23\,V \leq V_{IN} \leq -11\,V$	—	12	125	
Load Regulation	Reg·Load	1	$T_j = 25°C$	$1.0\,mA \leq I_{OUT} \leq 100\,mA$	—	15	80	mV
				$1.0\,mA \leq I_{OUT} \leq 40\,mA$	—	7.0	40	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	$-23\,V \leq V_{IN} \leq -10.5\,V$ $1.0\,mA \leq I_{OUT} \leq 40\,mA$	−8.4	—	−7.6	V
				$1.0\,mA \leq I_{OUT} \leq 70\,mA$	−8.4	—	−7.6	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.1	6.5	mA
			$T_j = 125°C$		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	$-23\,V \leq V_{IN} \leq -11\,V$, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	$1.0\,mA \leq I_{OUT} \leq 40\,mA$, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ $10\,Hz \leq f \leq 100\,kHz$		—	60	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	20	—	mV / kh
Ripple Rejection Ratio	R.R.	3	$-23\,V \leq V_{IN} \leq -12\,V$ $T_j = 25°C$, $f = 120\,Hz$		37	45	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5\,mA$		—	0.8	—	mV / °C

TA79L009P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{IN} = -15\,V$, $I_{OUT} = 40\,mA$, $C_{IN} = 0.33\,\mu F$, $C_{OUT} = 0.1\,\mu F$, $0°C \leqq T_j \leqq 125°C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25°C$		−9.36	−9.0	−8.64	V
Line Regulation	Reg·Line	1	$T_j = 25°C$	$-24\,V \leqq V_{IN} \leqq -11.4\,V$	—	80	200	mV
				$-24\,V \leqq V_{IN} \leqq -12\,V$	—	20	160	
Load Regulation	Reg·Load	1	$T_j = 25°C$	$1.0\,mA \leqq I_{OUT} \leqq 100\,mA$	—	17	90	mV
				$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	—	8.0	45	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	$-24\,V \leqq V_{IN} \leqq -11.4\,V$ $1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	−9.45	—	−8.55	V
				$1.0\,mA \leqq I_{OUT} \leqq 70\,mA$	−9.45	—	−8.55	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.2	6.5	mA
			$T_j = 125°C$		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	$-24\,V \leqq V_{IN} \leqq -12\,V$, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ $10\,Hz \leqq f \leqq 100\,kHz$		—	65	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	21	—	mV / kh
Ripple Rejection Ratio	R.R.	3	$-24\,V \leqq V_{IN} \leqq -12\,V$ $T_j = 25°C$, $f = 120\,Hz$		36	44	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5\,mA$		—	0.85	—	mV / °C

TA79L010P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = − 16V, I_{OUT} = 40 mA, C_{IN} = 0.33 μF, C_{OUT} = 0.1 μF, 0°C ≦ T_j ≦ 125°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	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	− 25 V ≦ V_{IN} ≦ − 12.5 V	—	80	230	mV
				− 25 V ≦ V_{IN} ≦ − 13 V	—	30	170	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	18	90	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	8.5	45	
Output Voltage	V_{OUT}	1	T_j = 25°C	− 25 V ≦ V_{IN} ≦ − 12.5 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	− 10.5	—	− 9.5	V
				1.0 mA ≦ I_{OUT} ≦ 70 mA	− 10.5	—	− 9.5	
Quiescent Current	I_B	1	T_j = 25°C		—	3.2	6.5	mA
			T_j = 125°C		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	− 25 V ≦ V_{IN} ≦ − 13 V, T_j = 25°C		—	—	1.5	mA
	ΔI_{BO}	1	1.0 mA ≦ I_{OUT} ≦ 40 mA, T_j = 25°C		—	—	0.1	
Output Noise Voltage	V_{NO}	2	Ta = 25°C 10 Hz ≦ f ≦ 100 kHz		—	70	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT} / \Delta t$	1	—		—	22	—	mV / kh
Ripple Rejection Ratio	R.R.	3	− 24 V ≦ V_{IN} ≦ − 13 V T_j = 25°C, f = 120 Hz		36	43	—	dB
Dropout Voltage	V_D	1	T_j = 25°C		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	I_{OUT} = 5 mA		—	0.9	—	mV / °C

TA79L012P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = -19 V, I_{OUT} = 40 mA, C_{IN} = 0.33 μF, C_{OUT} = 0.1 μF, 0°C $\leqq$ T_j $\leqq$ 125°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	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	-27 V $\leqq$ V_{IN} $\leqq$ -14.5 V	—	120	250	mV
				-27 V $\leqq$ V_{IN} $\leqq$ -16 V	—	100	200	
Load Regulation	Reg·load	1	T_j = 25°C	1.0 mA $\leqq$ I_{OUT} $\leqq$ 100 mA	—	20	100	mV
				1.0 mA $\leqq$ I_{OUT} $\leqq$ 40 mA	—	10	50	
Output Voltage	V_{OUT}	1	T_j = 25°C	-27 V $\leqq$ V_{IN} $\leqq$ -14.5 V 1.0 mA $\leqq$ I_{OUT} $\leqq$ 40 mA	-12.6	—	-11.4	V
				1.0 mA $\leqq$ I_{OUT} $\leqq$ 70 mA	-12.6	—	-11.4	
Quiescent Current	I_B	1	T_j = 25°C		—	3.2	6.5	mA
			T_j = 125°C		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	-27 V $\leqq$ V_{IN} $\leqq$ -16 V, T_j = 25°C		—	—	1.5	mA
	ΔI_{BO}	1	1.0 mA $\leqq$ I_{OUT} $\leqq$ 40 mA, T_j = 25°C		—	—	0.1	
Output Noise Voltage	V_{NO}	2	Ta = 25°C 10 Hz $\leqq$ f $\leqq$ 100 kHz		—	80	—	μV_{rms}
Long Term Stability	ΔV_{OUT} / Δt	1	—		—	24	—	mV / kh
Ripple Rejection Ratio	R.R.	3	-25 V $\leqq$ V_{IN} $\leqq$ -15 V T_j = 25°C, f = 120 Hz		37	42	—	dB
Dropout Voltage	V_D	1	T_j = 25°C		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	I_{OUT} = 5 mA		—	1.0	—	mV / °C

TA79L015P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{IN} = -23$ V, $I_{OUT} = 40$ mA, $C_{IN} = 0.33\,\mu$F, $C_{OUT} = 0.1\,\mu$F, $0°C \leqq T_j \leqq 125°C$)

CHARACTERISTIC	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	$T_j = 25°C$	-30 V $\leqq V_{IN} \leqq -17.5$ V	—	130	300	mV
				-30 V $\leqq V_{IN} \leqq -20$ V	—	110	250	
Load Regulation	Reg·load	1	$T_j = 25°C$	1.0 mA $\leqq I_{OUT} \leqq 100$ mA	—	25	150	mV
				1.0 mA $\leqq I_{OUT} \leqq 40$ mA	—	12	75	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	-30 V $\leqq V_{IN} \leqq -17.5$ V 1.0 mA $\leqq I_{OUT} \leqq 40$ mA	-15.75	—	-14.25	V
				1.0 mA $\leqq I_{OUT} \leqq 70$ mA	-15.75	—	-14.25	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.3	6.5	mA
			$T_j = 125°C$		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	-30 V $\leqq V_{IN} \leqq -20$ V, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	1.0 mA $\leqq I_{OUT} \leqq 40$ mA, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ 10 Hz $\leqq f \leqq 100$ kHz		—	90	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	30	—	mV / kh
Ripple Rejection Ratio	R.R.	3	-28.5 V $\leqq V_{IN} \leqq -18.5$ V $T_j = 25°C$, $f = 120$ Hz		34	39	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5$ mA		—	1.3	—	mV / °C

TA79L018P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = -27 V, I_{OUT} = 40 mA, C_{IN} = 0.33 μF, C_{OUT} = 0.1 μF, 0°C $\leq$ T_j $\leq$ 125°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	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	-33 V $\leq$ V_{IN} $\leq$ 20.7 V	—	32	325	mV
				-33 V $\leq$ V_{IN} $\leq$ -21 V	—	27	275	
Load Regulation	Reg·load	1	T_j = 25°C	1.0 mA $\leq$ I_{OUT} $\leq$ 100 mA	—	30	170	mV
				1.0 mA $\leq$ I_{OUT} $\leq$ 40 mA	—	15	75	
Output Voltage	V_{OUT}	1	T_j = 25°C	-33 V $\leq$ V_{IN} $\leq$ -20.9 V 1.0 mA $\leq$ I_{OUT} $\leq$ 40 mA	-18.9	—	-17.1	V
				1.0 mA $\leq$ I_{OUT} $\leq$ 70 mA	-18.9	—	-17.1	
Quiescent Current	I_B	1	T_j = 25°C		—	3.3	6.5	mA
			T_j = 125°C		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	-33 V $\leq$ V_{IN} $\leq$ -21 V, T_j = 25°C		—	—	1.5	mA
	ΔI_{BO}	1	1.0 mA $\leq$ I_{OUT} $\leq$ 40 mA, T_j = 25°C		—	—	0.1	
Output Noise Voltage	V_{NO}	2	Ta = 25°C 10 Hz $\leq$ f $\leq$ 100 kHz		—	150	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	45	—	mV / kh
Ripple Rejection Ratio	R.R.	3	-33 V $\leq$ V_{IN} $\leq$ -23 V T_j = 25°C, f = 120 Hz		33	48	—	dB
Dropout Voltage	V_D	1	T_j = 25°C		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	I_{OUT} = 5 mA		—	1.5	—	mV / °C

TA79L020P
ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{IN} = -29\,V$, $I_{OUT} = 40\,mA$, $C_{IN} = 0.33\,\mu F$, $C_{OUT} = 0.1\,\mu F$, $0°C \leqq T_j \leqq 125°C$)

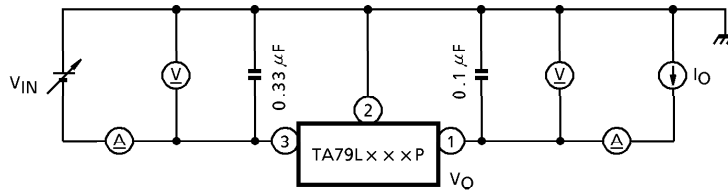| CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25°C$		-20.8	-20.0	-19.2	V
Line Regulation	Reg·line	1	$T_j = 25°C$	$-35\,V \leqq V_{IN} \leqq -23.5\,V$	—	33	330	mV
				$-35\,V \leqq V_{IN} \leqq -24\,V$	—	28	285	
Load Regulation	Reg·load	1	$T_j = 25°C$	$1.0\,mA \leqq I_{OUT} \leqq 100\,mA$	—	33	180	mV
				$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	—	17	90	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	$-35\,V \leqq V_{IN} \leqq -23.5\,V$ $1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	-21.0	—	-19.0	V
				$1.0\,mA \leqq I_{OUT} \leqq 70\,mA$	-21.0	—	-19.0	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.3	6.5	mA
			$T_j = 125°C$		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	$-35\,V \leqq V_{IN} \leqq -24\,V$, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	$10\,mA \leqq I_{OUT} \leqq 40\,mA$, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ $10\,Hz \leqq f \leqq 100\,kHz$		—	170	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	49	—	mV / kh
Ripple Rejection Ratio	R.R.	3	$-35\,V \leqq V_{IN} \leqq -27\,V$ $T_j = 25°C$, $f = 120\,Hz$		31	37	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5\,mA$		—	1.7	—	mV / °C

TA79L024P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{IN} = -33\,V$, $I_{OUT} = 40\,mA$, $C_{IN} = 0.33\,\mu F$, $C_{OUT} = 0.1\,\mu F$, $0°C \leqq T_j \leqq 125°C$)

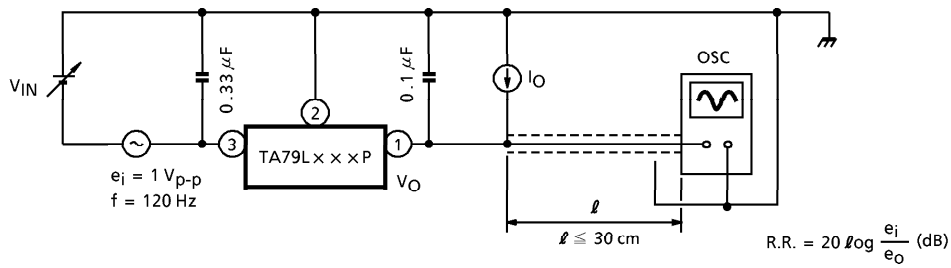| CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	$T_j = 25°C$		-25.0	-24.0	-23.0	V
Line Regulation	Reg·line	1	$T_j = 25°C$	$-38\,V \leqq V_{IN} \leqq -27\,V$	—	35	350	mV
				$-38\,V \leqq V_{IN} \leqq -28\,V$	—	30	300	
Load Regulation	Reg·load	1	$T_j = 25°C$	$1.0\,mA \leqq I_{OUT} \leqq 100\,mA$	—	40	200	mV
				$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	—	20	100	
Output Voltage	V_{OUT}	1	$T_j = 25°C$	$-38\,V \leqq V_{IN} \leqq -27\,V$ $1.0\,mA \leqq I_{OUT} \leqq 40\,mA$	-25.2	—	-22.8	V
				$1.0\,mA \leqq I_{OUT} \leqq 70\,mA$	-25.2	—	-22.8	
Quiescent Current	I_B	1	$T_j = 25°C$		—	3.5	6.5	mA
			$T_j = 125°C$		—	—	6.0	
Quiescent Current Change	ΔI_{BI}	1	$-38\,V \leqq V_{IN} \leqq -28\,V$, $T_j = 25°C$		—	—	1.5	mA
	ΔI_{BO}	1	$1.0\,mA \leqq I_{OUT} \leqq 40\,mA$, $T_j = 25°C$		—	—	0.1	
Output Noise Voltage	V_{NO}	2	$Ta = 25°C$ $10\,Hz \leqq f \leqq 100\,kHz$		—	200	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT} / \Delta t$	1	—		—	56	—	mV / kh
Ripple Rejection Ratio	R.R.	3	$-35\,V \leqq V_{IN} \leqq -29\,V$ $T_j = 25°C$, $f = 120\,Hz$		31	47	—	dB
Dropout Voltage	V_D	1	$T_j = 25°C$		—	1.7	—	V
Average Temperature Coefficient of Output Voltage	T_{CVO}	1	$I_{OUT} = 5\,mA$		—	2.0	—	mV / °C

TEST CIRCUIT

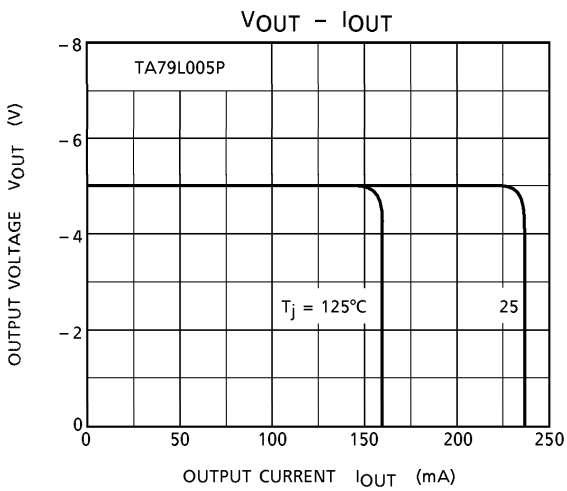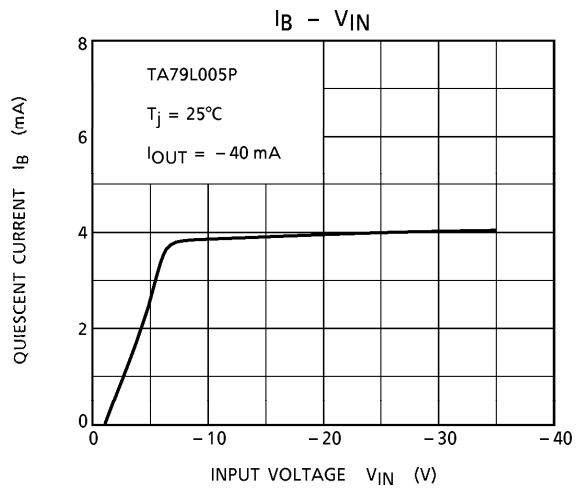1. V_{OUT}, Reg.line, Reg.load, I_B, ΔI_B, $\Delta V_{OUT}/\Delta t$, V_D, T_{CVO}

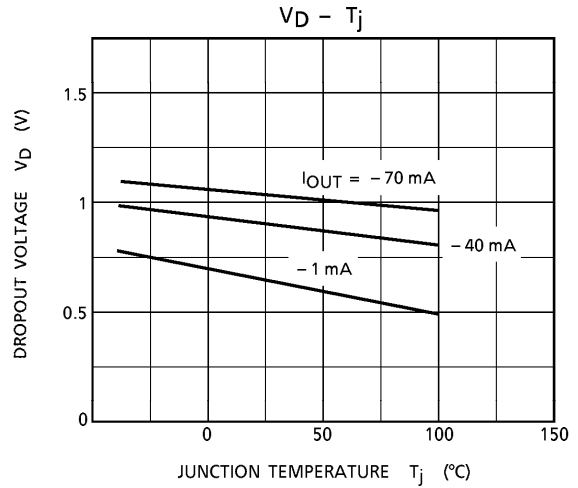2. V_{NO}

3. R.R.

P_Dmax. – Ta

V_D – Tj

V_OUT – V_IN

I_B – V_IN

V_OUT – I_OUT
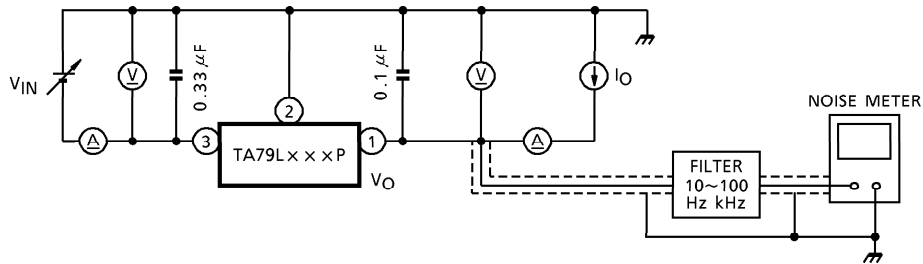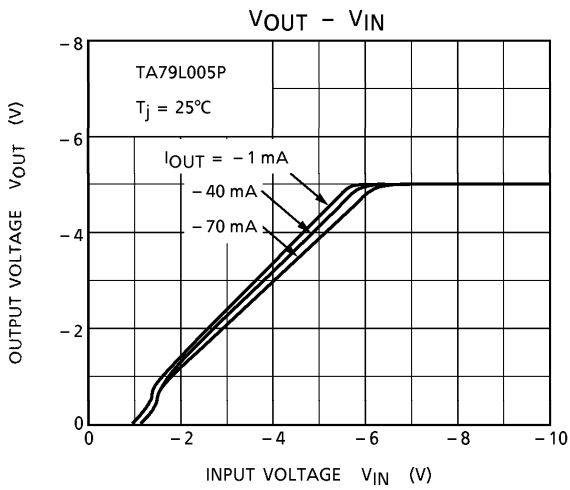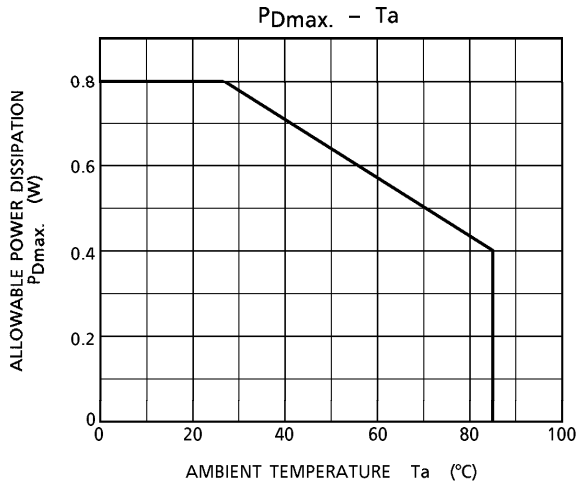
PACKAGE DIMENSIONS
P-SSIP3-1.27   Unit : mm

5.1MAX

8.2MAX

0.75MAX
1.0MAX
0.80MAX
0.60MAX

1.0

2.2MAX

10.5MIN

1.27   1.27

2.54

0.6MAX

4.1MAX

2 3 1

Weight : 0.36 g (Typ.)