TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

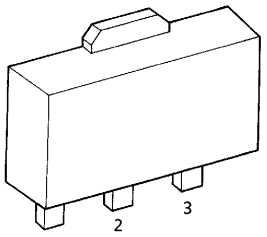
TA79L05F, TA79L06F, TA79L08F, TA79L09F, TA79L10F TA79L12F, TA79L15F, TA79L18F, TA79L20F, TA79L24F

3-TERMINAL NEGATIVE VOLTAGE REGULATORS

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

FEATURES

- Best suited to a power supply for TTL and C^2MOS
- Built-in over current protective circuit
- Built-in thermal protective circuit
- Max. output current 150 mA (T_j = 25°C)
- Packaged in POWER MINI. (SOT-89)

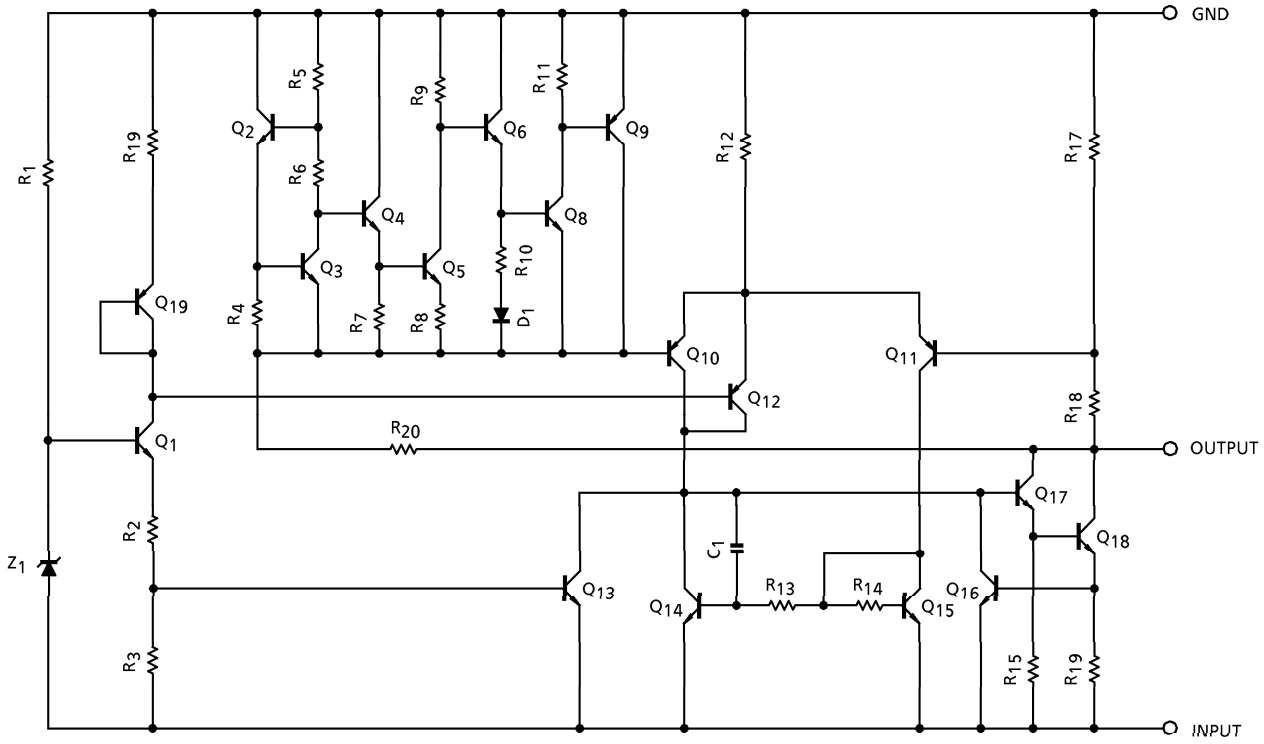


1. COMMON
2. INPUT (CASE)
3. OUTPUT

P-HSOP3-1.50

Weight : 0.05 g (Typ.)

EQUIVALENT CIRCUIT



980910EBA2

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	TA79L05F	V_{IN}	−35	V
	TA79L06F			
	TA79L08F			
	TA79L09F			
	TA79L10F			
	TA79L12F			
	TA79L15F			
	TA79L18F		−40	
	TA79L20F			
	TA79L24F			
Power Dissipation	(Ta = 25°C)	P_D	500	mW
Operating Temperature		T_{opr}	−30~85	°C
Storage Temperature		T_{stg}	−55~150	°C
Junction Temperature		T_j	150	°C
Thermal Resistance		$R_{th\ (j-a)}$	250	°C / W

TYPE NO.	MARKING
TA79L05F	AJ
TA79L06F	BJ
TA79L08F	CJ
TA79L09F	DJ
TA79L10F	EJ
TA79L12F	FJ
TA79L15F	GJ
TA79L18F	HJ
TA79L20F	IJ
TA79L24F	JJ

TA79L05F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −10 V, 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		−5.2	−5.0	−4.8	V
Line Regulation	Reg·line	1	T_j = 25°C	−20 V ≦ V_{IN} ≦ −7.0 V	—	55	150	mV
				−20 V ≦ V_{IN} ≦ −8.0 V	—	45	100	
Load Regulation	Reg·load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	11	100	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	5.0	50	
Output Voltage	V_{OUT}	1	T_j = 25°C	−20 V ≦ V_{IN} ≦ −7.0 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−5.25	—	−4.75	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −8.0 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		—	40	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	12	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−18 V ≦ V_{IN} ≦ −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

TA79L06F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −11 V, 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		−6.24	−6.0	−5.76	V
Line Regulation	Reg·Line	1	T_j = 25°C	−21 V ≦ V_{IN} ≦ −8.1 V	—	50	150	mV
				−21 V ≦ V_{IN} ≦ −9.0 V	—	45	110	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	12	120	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	5.5	60	
Output Voltage	V_{OUT}	1	T_j = 25°C	−21 V ≦ V_{IN} ≦ −8.1 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−6.3	—	−5.7	V
				1.0 mA ≦ I_{OUT} ≦ 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	−20 V ≦ V_{IN} ≦ −9.0 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		—	40	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	14	—	mV/kh
Ripple Rejection Ratio	R.R.	3	−19 V ≦ V_{IN} ≦ −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

TA79L08F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −14 V, 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		−8.3	−8.0	−7.7	V
Line Regulation	Reg·Line	1	T_j = 25°C	−23 V ≦ V_{IN} ≦ −10.5 V	—	20	175	mV
				−23 V ≦ V_{IN} ≦ −11 V	—	12	125	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	15	155	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	7.0	75	
Output Voltage	V_{OUT}	1	T_j = 25°C	−23 V ≦ V_{IN} ≦ −10.5 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−8.4	—	−7.6	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −11 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		—	60	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	20	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−23 V ≦ V_{IN} ≦ −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

TA79L09F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −15 V, 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		−9.36	−9.0	−8.64	V
Line Regulation	Reg·Line	1	T_j = 25°C	−24 V ≦ V_{IN} ≦ −11.4 V	—	80	200	mV
				−24 V ≦ V_{IN} ≦ −12 V	—	20	160	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	17	175	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	8.0	80	
Output Voltage	V_{OUT}	1	T_j = 25°C	−24 V ≦ V_{IN} ≦ −11.4 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−9.45	—	−8.55	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −12 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		—	65	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	21	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−24 V ≦ V_{IN} ≦ −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

TA79L10F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −16 V, 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	190	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	8.5	90	
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	1.0mA ≦ I_{OUT} ≦ 40mA, 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

TA79L12F

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 ≦ T_j ≦ 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 ≦ V_{IN} ≦ – 14.5 V	—	120	250	mV
				– 27 V ≦ V_{IN} ≦ – 16 V	—	100	200	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	20	225	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	10	105	
Output Voltage	V_{OUT}	1	T_j = 25°C	– 27 V ≦ V_{IN} ≦ – 14.5 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	– 12.6	—	– 11.4	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ – 16 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		—	80	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT} / \Delta t$	1	—		—	24	—	mV / kh
Ripple Rejection Ratio	R.R.	3	– 25 V ≦ V_{IN} ≦ – 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

TA79L15F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −23 V, 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		−15.6	−15.0	−14.4	V
Line Regulation	Reg·Line	1	T_j = 25°C	−30 V ≦ V_{IN} ≦ −17.5 V	—	130	300	mV
				−30 V ≦ V_{IN} ≦ −20 V	—	110	250	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	25	280	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	12	130	
Output Voltage	V_{OUT}	1	T_j = 25°C	−30 V ≦ V_{IN} ≦ −17.5 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−15.75	—	−14.25	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −20 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		—	90	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	30	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−28.5 V ≦ V_{IN} ≦ −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

TA79L18F

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 ≦ T_j ≦ 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 ≦ V_{IN} ≦ −20.7 V	—	32	325	mV
				−33 V ≦ V_{IN} ≦ −21 V	—	27	275	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	30	335	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	15	155	
Output Voltage	V_{OUT}	1	T_j = 25°C	−33 V ≦ V_{IN} ≦ −20.9 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−18.9	—	−17.1	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −21 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		—	150	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	45	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−33 V ≦ V_{IN} ≦ −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

TA79L20F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −29 V, 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		−20.8	−20.0	−19.2	V
Line Regulation	Reg·Line	1	T_j = 25°C	−35 V ≦ V_{IN} ≦ −23.5 V	—	33	330	mV
				−35 V ≦ V_{IN} ≦ −24 V	—	28	285	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	33	370	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	17	170	
Output Voltage	V_{OUT}	1	T_j = 25°C	−35 V ≦ V_{IN} ≦ −23.5 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−21.0	—	−19.0	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −24 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		—	170	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	49	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−35 V ≦ V_{IN} ≦ −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

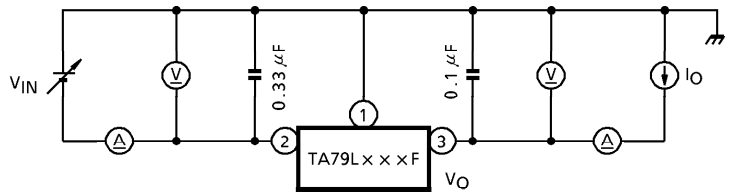
TA79L24F

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{IN} = −33 V, I_{OUT} = 40 mA, C_{IN} = 0.33 μF, C_{OUT} = 0.1 μF, 0°C ≦ T_j ≦ 125°C)

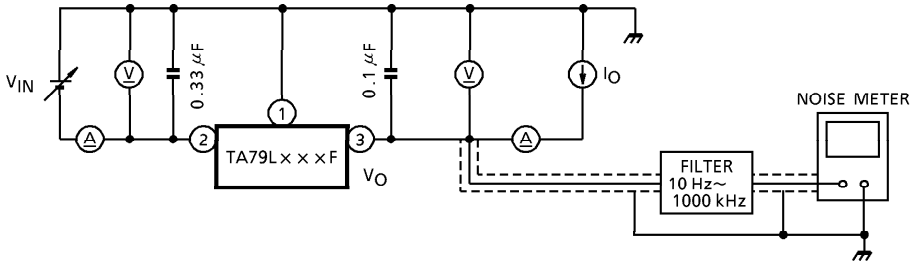
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	T_j = 25°C		−25.0	−24.0	−23.0	V
Line Regulation	Reg·Line	1	T_j = 25°C	−38 V ≦ V_{IN} ≦ −27 V	—	35	350	mV
				−38 V ≦ V_{IN} ≦ −28 V	—	30	300	
Load Regulation	Reg·Load	1	T_j = 25°C	1.0 mA ≦ I_{OUT} ≦ 100 mA	—	40	440	mV
				1.0 mA ≦ I_{OUT} ≦ 40 mA	—	20	200	
Output Voltage	V_{OUT}	1	T_j = 25°C	−38 V ≦ V_{IN} ≦ −27 V 1.0 mA ≦ I_{OUT} ≦ 40 mA	−25.2	—	−22.8	V
				1.0 mA ≦ I_{OUT} ≦ 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 ≦ V_{IN} ≦ −28 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		—	200	—	μV_{rms}
Long Term Stability	$\Delta V_{OUT}/\Delta t$	1	—		—	56	—	mV / kh
Ripple Rejection Ratio	R.R.	3	−35 V ≦ V_{IN} ≦ −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

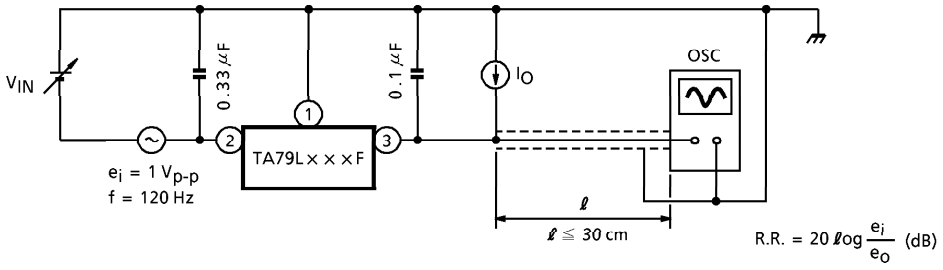
1. V_{OUT}, Reg.line, Reg.load, I_B, ΔI_B, $\Delta V_{OUT}/\Delta t$, V_D, T_{CVO}



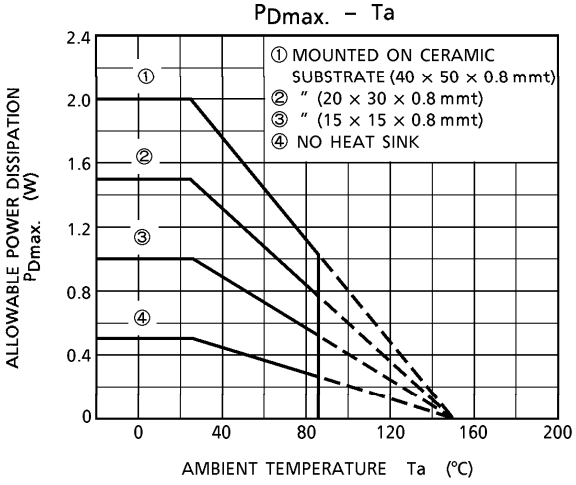
2. V_{NO}



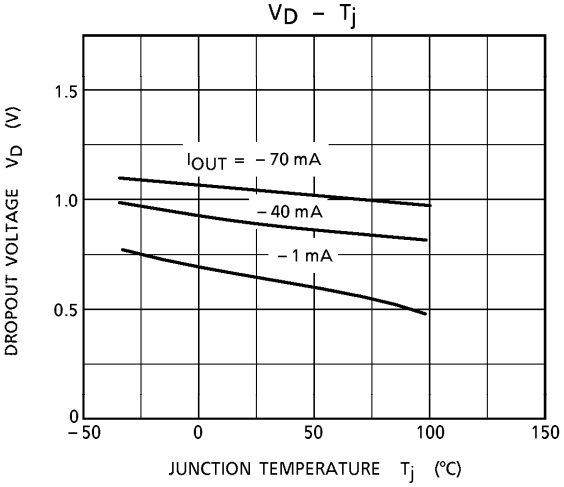
3. R.R.



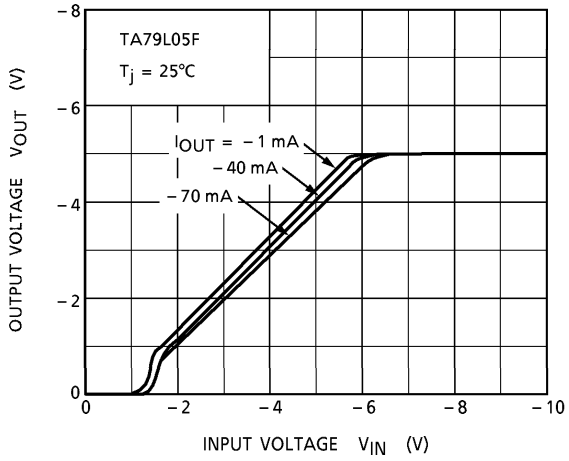
$P_{Dmax.}$ – Ta



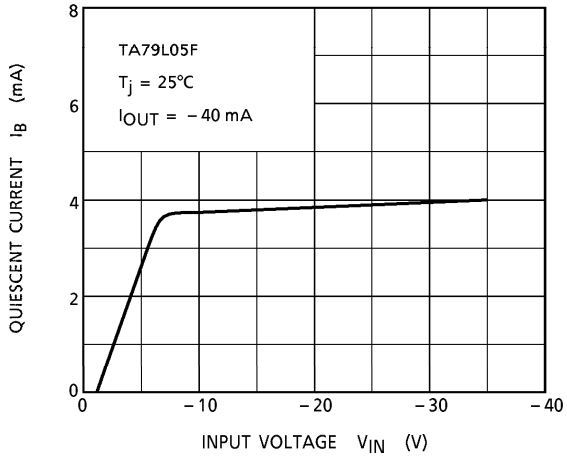
V_D – T_j



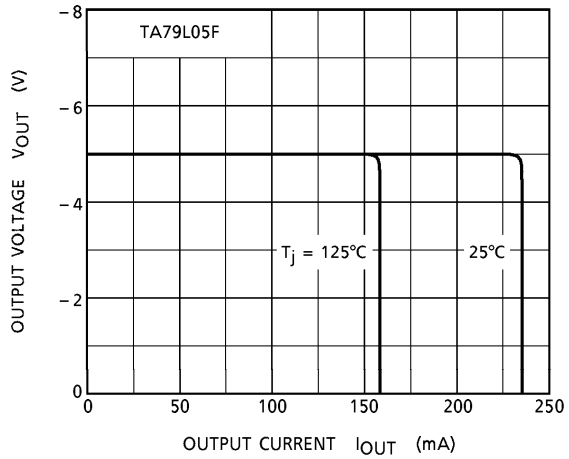
V_{OUT} – V_{IN}



I_B – V_{IN}

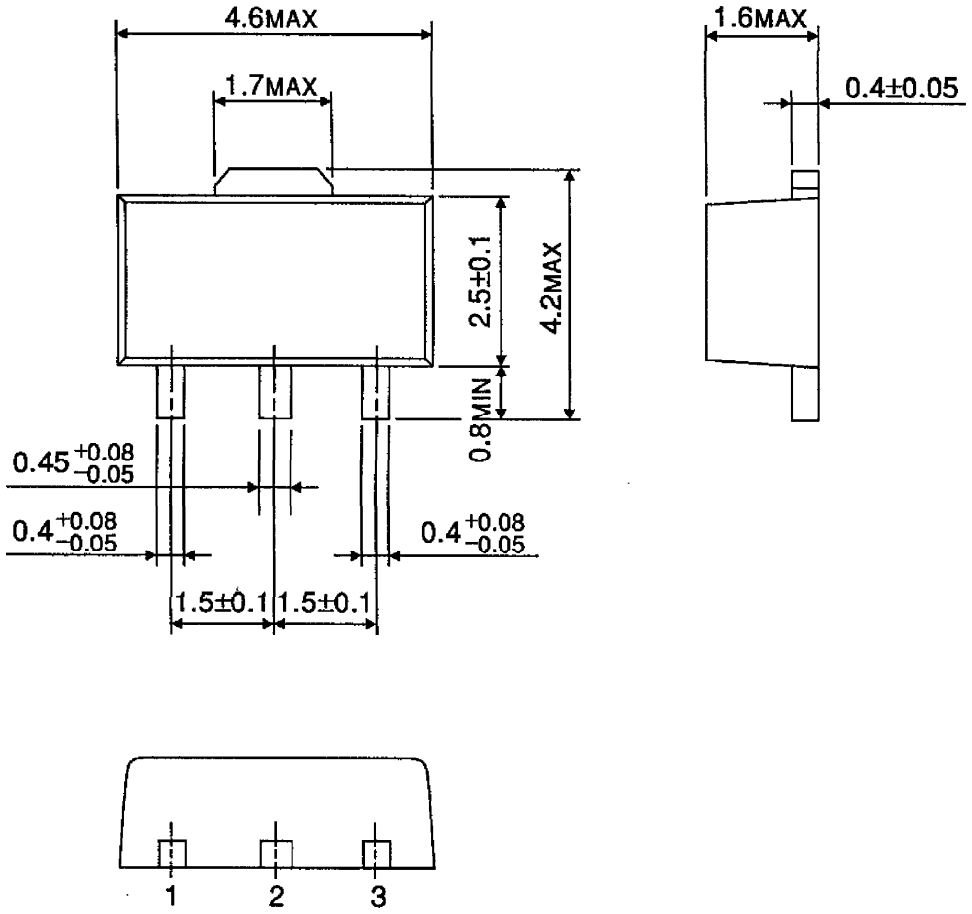


V_{OUT} – I_{OUT}



PACKAGE DIMENSIONS

P-HSOP3-1.50 Unit : mm



Weight : 0.05 g (Typ.)