AN7800/AN7800F Series

3-Terminal Positive Output Voltage Regulators (1A Type)

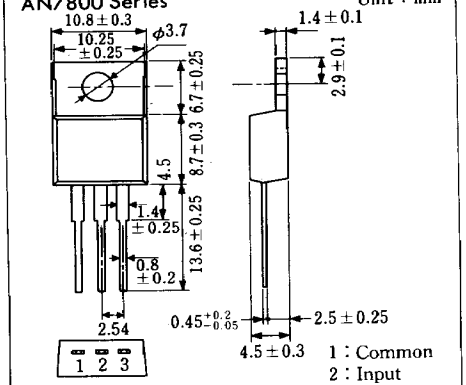
■ Outline

The AN7800 series and the AN7800F series are 3-terminal fixed positive output voltage regulators. Stabilized fixed output voltage is obtained from unstable DC input voltage without using external components. 11 types of fixed output voltage are available, 5V, 6V, 7V, 8V, 9V, 10V, 12V, 15V, 18V, 20V and 24V. They can be used widely in power circuits with current capacity up to 1A.

■ Features

- No external components
- Output current in excess of 1A
- Output voltage : 5V, 6V, 7V, 8V, 9V, 10V, 12V, 15V, 18V, 20V, 24V
- Internal short-circuit current limiting
- Internal thermal overload protection
- Output transistor safe area compensation

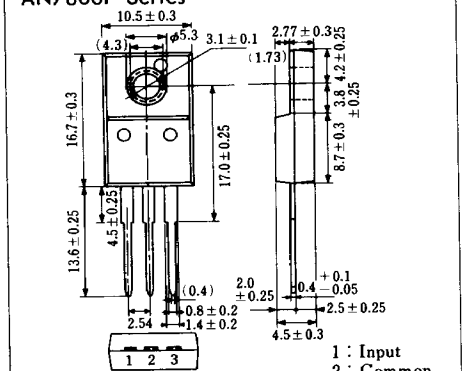
AN7800 Series Unit : mm



1 : Common
2 : Input
3 : Output

JEDEC : TO-220AB

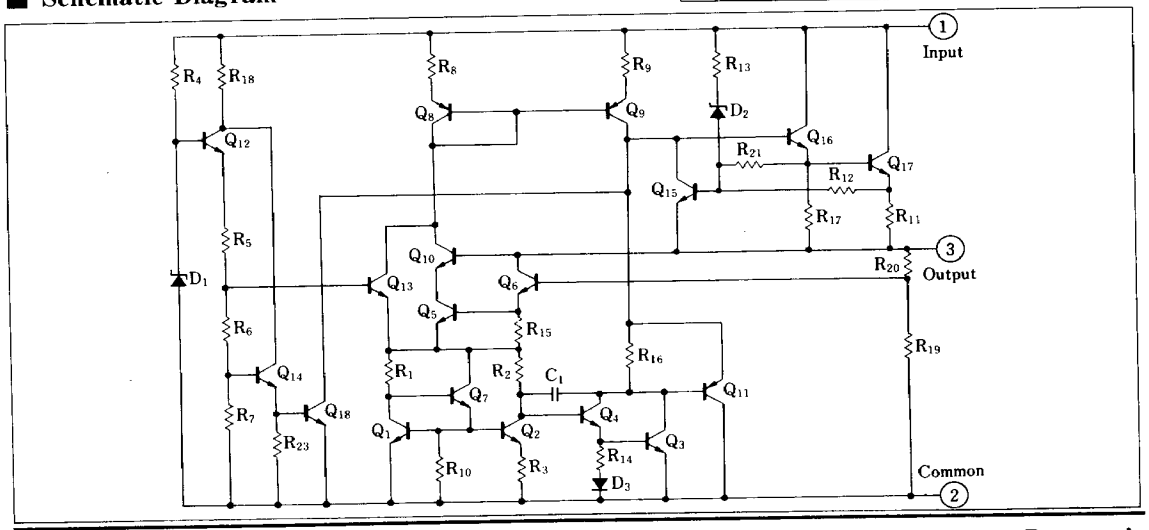
AN7800F Series Unit : mm



1 : Input
2 : Common
3 : Output

TO-220 Full Pack Package

■ Schematic Diagram



Panasonic

■ Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Rating	Unit
Input Voltage	V_I	35*1	V
		40*2	V
Power Dissipation	P_D	15*3	W
Operating Ambient Temperature	T_{opr}	−30～+80	℃
Storage Temperature	T_{stg}	−55～+150	℃

*1 AN7805/F, AN7806/F, AN7807/F, AN7808/F AN7809/F, AN7810/F, AN7812/F, AN7815/F, AN7818/F
*2 AN7820/F, AN7824/F
*3 Follow the derating curve. When T_j exceeds 150℃, the internal circuit cuts off output.

■ Electrical Characteristics (Ta=25℃)

● AN7805/7805F (5V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	4.8	5	5.2	V
Output Voltage Tolerance	V_O	1	V_I=8～20V, I_O=5mA～1A, T_j=0～125℃, P_D≦15W	4.75		5.25	V
Line Regulation	REG_{IN}	1	V_I=7.5～25V, T_j=25℃		3	100	mV
			V_I=8～12V, T_j=25℃		1	50	mV
Load Regulation	REG_L	1	I_O=5mA～1.5A, T_j=25℃		15	100	mV
			I_O=250～750mA, T_j=25℃		5	50	mV
Bias Current	I_{Bias}	2	T_j=25℃		3.9	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=7.5～25V, T_j=25℃			1.3	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	V_O=5mA～1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz～100kHz		40		μV
Ripple Rejection Ratio	RR	3	V_I=8～18V, I_O=100mA, f=120Hz	62			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		17		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=25V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0～125℃		−0.3		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=10V, I_O=500mA, C_I=0.33μF and C_O=0.1μF.

● AN7806/7806F (6V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	5.75	6	6.25	V
Output Voltage Tolerance	V_O	1	V_I=9～21V, I_O=5mA～1A, T_j=0～125℃, P_D≦15W	5.7		6.3	V
Line Regulation	REG_{IN}	1	V_I=8.5～25V, T_j=25℃		5	120	mV
			V_I=9～13V, T_j=25℃		1.5	60	mV
Load Regulation	REG_L	1	I_O=5mA～1.5A, T_j=25℃		14	120	mV
			I_O=250～750mA, T_j=25℃		4	60	mV
Bias Current	I_{Bias}	2	T_j=25℃		3.9	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=8.5～25V, T_j=25℃			1.3	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	V_O=5mA～1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz～100kHz		40		μV
Ripple Rejection Ratio	RR	3	V_I=9～19V, I_O=100mA, f=120Hz	59			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		17		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=25V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0～125℃		−0.4		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=11V, I_O=500mA, C_I=0.33μF and C_O=0.1μF.

■ Electrical Characteristics (Ta=25℃)

● AN7807/7807F (7V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	6.7	7	7.3	V
Output Voltage Tolerance	V_O	1	V_I=10~22V, I_O=5mA~1A, T_j=0~125℃, P_D≦15W	6.6		7.4	V
Line Regulation	REG_{IN}	1	V_I=9.5~25V, T_j=25℃		5	140	mV
			V_I=10~15V, T_j=25℃		1.5	70	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		14	140	mV
			I_O=250~750mA, T_j=25℃		4	70	mV
Bias Current	I_{Bias}	2	T_j=25℃		3.9	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=9.5~25V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$		I_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		46		μV
Ripple Rejection Ratio	RR	3	V_I=10~20V, I_O=100mA, f=120Hz	57			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		16		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=25V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−0.5		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=12V, I_O=500mA, C_I=0.33μF and C_O=0.1μF.

● AN7808/7808F (8V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	7.7	8	8.3	V
Output Voltage Tolerance	V_O	1	V_I=11~23V, I_O=5mA~1A, T_j=0~125℃, P_D≦15W	7.6		8.4	V
Line Regulation	REG_{IN}	1	V_I=10.5~25V, T_j=25℃		6	160	mV
			V_I=11~17V, T_j=25℃		2	80	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		12	160	mV
			I_O=250~750mA, T_j=25℃		4	80	mV
Bias Current	I_{Bias}	2	T_j=25℃		3.9	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=10.5~25V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	V_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		52		μV
Ripple Rejection Ratio	RR	3	V_I=11.5~21.5V, I_O=100mA, f=120Hz	56			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		16		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=25V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−0.5		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=14V, I_O=500mA, C_I=0.33μF and C_O=0.1μF.

■ Electrical Characteristics (Ta = 25℃)

● AN7809/7809F (9V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j = 25℃	8.65	9	9.35	V
Output Voltage Tolerance	V_O	1	V_I = 12 ~ 24V, I_O = 5mA ~ 1A, T_j = 0 ~ 125℃, $P_D \leqq$ 15W	8.55		9.45	V
Line Regulation	REG_{IN}	1	V_I = 11.5 ~ 26V, T_j = 25℃		7	180	mV
			V_I = 12 ~ 18V, T_j = 25℃		2	90	mV
Load Regulation	REG_L	1	I_O = 5mA ~ 1.5A, T_j = 25℃		12	180	mV
			I_O = 250 ~ 750mA, T_j = 25℃		4	90	mV
Bias Current	I_{Bias}	2	T_j = 25℃		3.9	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I = 11.5 ~ 26V, T_j = 25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O = 5mA ~ 1A, T_j = 25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f = 10Hz ~ 100kHz		57		μV
Ripple Rejection Ratio	RR	3	V_I = 12 ~ 22V, I_O = 100mA, f = 120Hz	56			dB
Minimum Input Output Voltage Difference	$V_{DIF(min.)}$		I_O = 1A, T_j = 25℃		2		V
Output impedance	Z_O		f = 1kHz		16		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I = 26V, T_j = 25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j = 25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O / T_a$		I_O = 5mA, T_j = 0 ~ 125℃		−0.5		mV/℃

Note1: The specified condition T_j = 25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2: When not specified, V_I = 15V, I_O = 500mA, C_I = 0.33μF and C_O = 0.1μF.

● AN7810/7810F (10V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j = 25℃	9.6	10	10.4	V
Output Voltage Tolerance	V_O	1	V_I = 13 ~ 25V, I_O = 5mA ~ 1A, T_j = 0 ~ 125℃, $P_D \leqq$ 15W	9.5		10.5	V
Line Regulation	REG_{IN}	1	V_I = 12.5 ~ 27V, T_j = 25℃		8	200	mV
			V_I = 13 ~ 19V, T_j = 25℃		2.5	100	mV
Load Regulation	REG_L	1	I_O = 5mA ~ 1.5A, T_j = 25℃		12	200	mV
			I_O = 250 ~ 750mA, T_j = 25℃		4	100	mV
Bias Current	I_{Bias}	2	T_j = 25℃		3.9	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I = 12.5 ~ 27V, T_j = 25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O = 5mA ~ 1A, T_j = 25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f = 10Hz ~ 100kHz		63		μV
Ripple Rejection Ratio	RR	3	V_I = 13 ~ 23V, I_O = 100mA, f = 120Hz	56			dB
Minimum Input Output Voltage Difference	$V_{DIF(min.)}$		I_O = 1A, T_j = 25℃		2		V
Output impedance	Z_O		f = 1kHz		16		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I = 27V, T_j = 25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j = 25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O / T_a$		I_O = 5mA, T_j = 0 ~ 125℃		−0.6		mV/℃

Note1: The specified condition T_j = 25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2: When not specified, V_I = 16V, I_O = 500mA, C_I = 0.33μF and C_O = 0.1μF.

■ Electrical Characteristics (Ta=25℃)

● AN7812/7812F (12V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	11.5	12	12.5	V
Output Voltage Tolerance	V_O	1	V_I=15~27V, I_O=5mA~1A, T_j=0~125℃, P_D≦15W	11.4		12.6	V
Line Regulation	REG_{IN}	1	V_I=14.5~30V, T_j=25℃		10	240	mV
			V_I=16~22V, T_j=25℃		3	120	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		12	240	mV
			I_O=250~750mA, T_j=25℃		4	120	mV
Bias Current	I_{Bias}	2	T_j=25℃		4	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=14.5~30V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		75		μV
Ripple Rejection Ratio	RR	3	V_I=15~25V, I_O=100mA, f=120Hz	55			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		18		mΩ
Output Short Circuit Current	$I_{O(short)}$	3	V_I=30V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	3	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−0.8		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=19V, I_O=500mA, C_1=0.33μF and C_O=0.1μF.

● AN7815/7815F (15V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	14.4	15	15.6	V
Output Voltage Tolerance	V_O	1	V_I=18~30V, I_O=5mA~1A, T_j=0~125℃, P_D≦15W	14.25		15.75	V
Line Regulation	REG_{IN}	1	V_I=17.5~30V, T_j=25℃		11	300	mV
			V_I=20~26V, T_j=25℃		3	150	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		12	300	mV
			I_O=250~750mA, T_j=25℃		4	150	mV
Bias Current	I_{Bias}	2	T_j=25℃		4	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=17.5~30V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		90		μV
Ripple Rejection Ratio	RR	3	V_I=18.5~28.5V, f=120Hz	54			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		19		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=30V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−1		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=23V, I_O=500mA, C_1=0.33μF and C_O=0.1μF.

■ Electrical Characteristics (Ta=25℃)

● AN7818/7818F (18V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	17.3	18	18.7	V
Output Voltage Tolerance	V_O	1	V_I=21~33V, I_O=5mA~1A, T_j=0~125℃, P_D≦15W	17.1		18.9	V
Line Regulation	REG_{IN}	1	V_I=21~33V, T_j=25℃		14	360	mV
			V_I=24~30V, T_j=25℃		4	180	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		12	360	mV
			I_O=250~750mA, T_j=25℃		4	180	mV
Bias Current	I_{Bias}	2	T_j=25℃		4.1	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=21~33V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		110		μV
Ripple Rejection Ratio	RR	3	V_I=22~32V, I_O=100mA, f=120Hz	53			dB
Minimum Input Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		16		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=35V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−1.1		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=27V, I_O=500mA, C_I=0.33μF and C_O=0.1μF.

● AN7820/7820F (20V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	19.2	20	20.8	V
Output Voltage Tolerance	V_O	1	V_I=24~35V, I_O=5mA~1A, T_j=0~125℃, P_D≦15W	19		21	V
Line Regulation	REG_{IN}	1	V_I=23~35V, T_j=25℃		15	400	mV
			V_I=26~32V, T_j=25℃		5	200	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		12	400	mV
			I_O=250~750mA, T_j=25℃		4	200	mV
Bias Current	I_{Bias}	2	T_j=25℃		4.1	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=23~35V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		110		μV
Ripple Rejection Ratio	RR	3	V_I=24~34V, I_O=100mA, f=120Hz	53			dB
Minimum Input Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		22		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=35V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−1.2		mV/℃

Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.
Note2) When not specified, V_I=29V, I_O=500mA, C_I=0.33μF and C_O=0.1μF.

■ Electrical Characteristics (Ta=25℃)

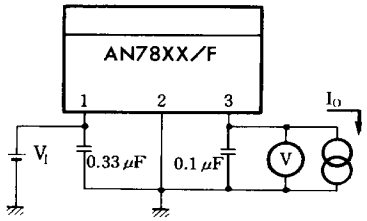
● AN7824/7824F (24V Type)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Output Voltage	V_O	1	T_j=25℃	23	24	25	V
Output Voltage Tolerance	V_O	1	V_I=28~38V, I_O=5mA~1A, T_j=0~125℃, $P_D \leqq 15W$	22.8		25.2	V
Line Regulation	REG_{IN}	1	V_I=27~38V, T_j=25℃		18	480	mV
			V_I=30~36V, T_j=25℃		6	240	mV
Load Regulation	REG_L	1	I_O=5mA~1.5A, T_j=25℃		12	480	mV
			I_O=250~750mA, T_j=25℃		4	240	mV
Bias Current	I_{Bias}	2	T_j=25℃		4.1	8	mA
Input Bias Current Change	$\Delta I_{Bias(IN)}$	2	V_I=27~38V, T_j=25℃			1	mA
Load Bias Current Change	$\Delta I_{Bias(L)}$	2	I_O=5mA~1A, T_j=25℃			0.5	mA
Output Noise Voltage	V_{no}	1	f=10Hz~100kHz		170		μV
Ripple Rejection Ratio	RR	3	V_I=28~38V, I_O=100mA, f=120Hz	50			dB
Minimum Input/Output Voltage Difference	$V_{DIF(min.)}$		I_O=1A, T_j=25℃		2		V
Output impedance	Z_O		f=1kHz		28		mΩ
Output Short Circuit Current	$I_{O(short)}$	1	V_I=38V, T_j=25℃		700		mA
Peak Output Current	$I_{O(Peak)}$	1	T_j=25℃		2		A
Output Voltage Temperature Coefficient	$\Delta V_O/T_a$		I_O=5mA, T_j=0~125℃		−1.4		mV/℃

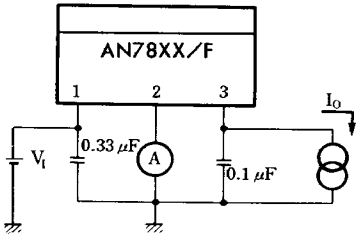
Note1) The specified condition T_j=25℃ means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.

Note2) When not specified, V_I=33V, I_O=500mA, C_1=0.33μF and C_O=0.1μF.

Test Circuit 1 (V_O, REG_{IN}, REG_L, V_{no}, $I_{O(Short)}$, $I_{O(Peak)}$)

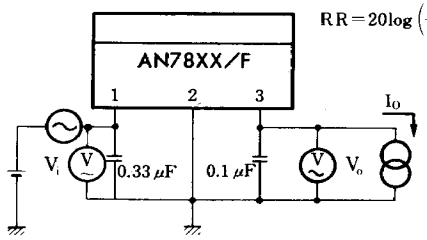


Test Circuit 2 (I_{Bias}, $\Delta I_{Bias(IN)}$, $\Delta I_{Bias(L)}$)

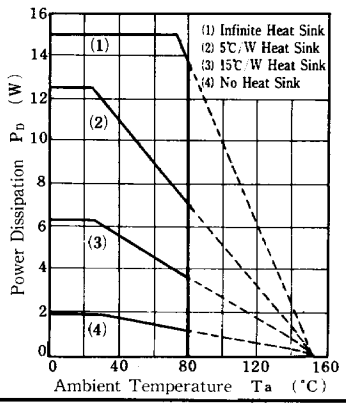


Test Circuit 3 (RR)

$$RR = 20\log\left(\frac{|V_i|}{|V_o|}\right)$$

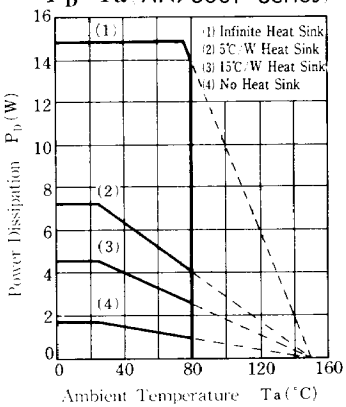


P_D–Ta (AN7800 Series)

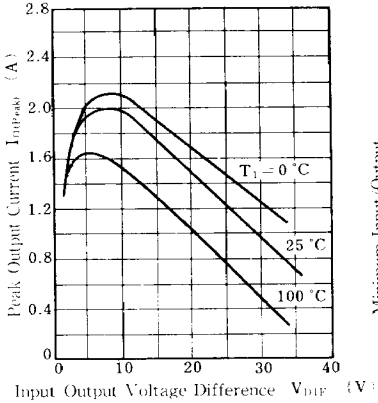


Panasonic

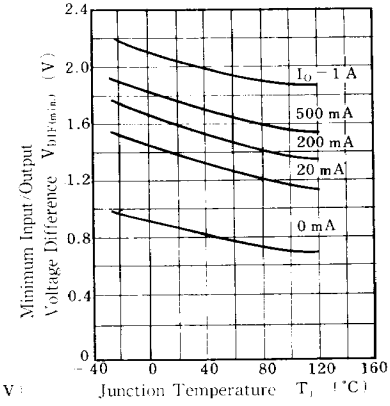
P_D Ta (AN7800F Series)



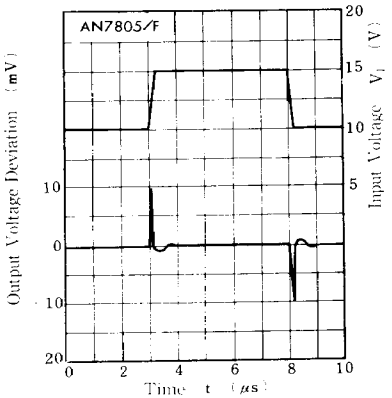
$I_{O(Peak)} - V_{DIF}$



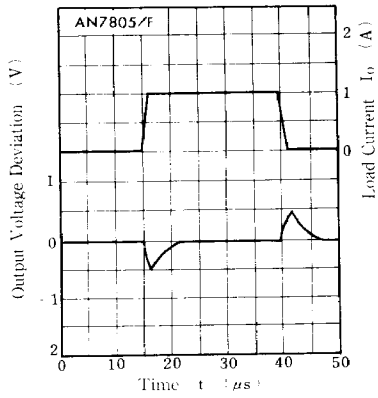
$V_{DIF(min.)} - T_j$



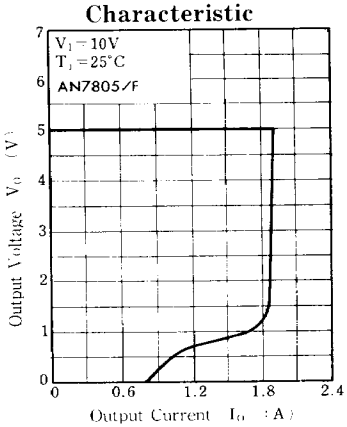
Input Transient Response



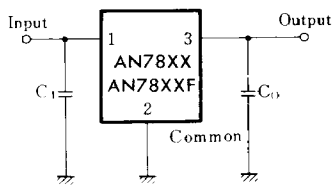
Load Transient Response



Current Limiting Characteristic



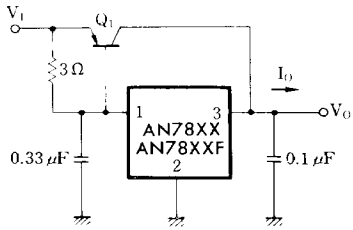
■ Basic Regulator Circuit



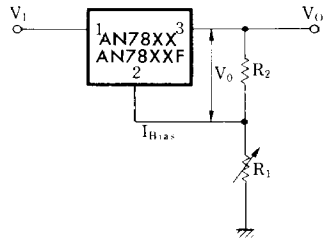
C_I is set when the input line is long.
C_O improves the transient response.

■ Application Circuit

1) Current Boost Circuit



2) Adjustable Output Regulator



$$V_O = V_0 + \left(I_{Bias} + \frac{V_0}{R_2}\right) R_1$$