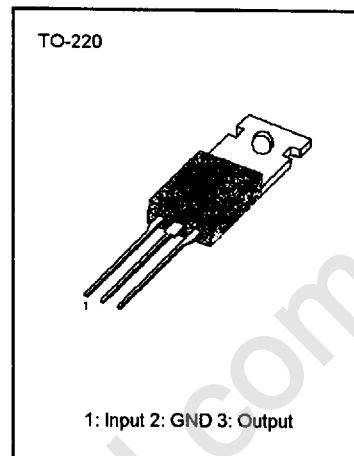


3-TERMINAL 1A POSITIVE VOLTAGE REGULATORS

The KA78XX series of three-terminal positive regulators are available in the TO-220 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shut-down and safe area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.



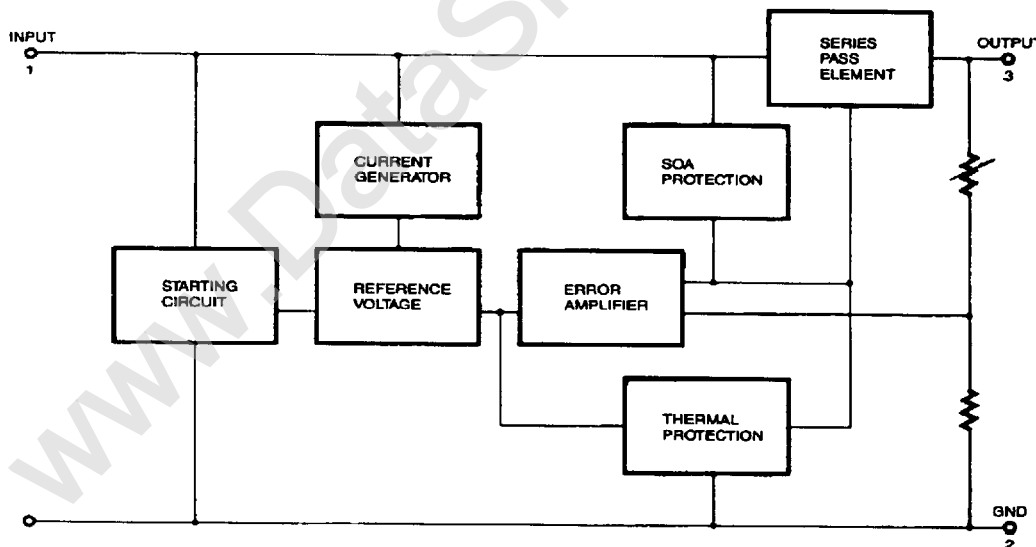
FEATURES

- Output Current up to 1A
- Output Voltages of 5; 6; 8; 9; 10; 11; 12; 15; 18; 24V
- Thermal Overload Protection
- Short Circuit Protection
- Output Transistor SOA Protection

ORDERING INFORMATION

Device	Package	Operating Temperature
KA78XX	TO-220	0 ~ + 125°C
KA78XXA	TO-220	
KA78XXI	TO-220	-40 ~ + 125°C

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

Characteristic	Symbol	Value	Unit
Input Voltage (for $V_O = 5\text{V}$ to 18V)	V_I	35	V
(for $V_O = 24\text{V}$)	V_I	40	V
Thermal Resistance Junction-Cases	$R_{\theta JC}$	5	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-Air	$R_{\theta JA}$	65	$^\circ\text{C}/\text{W}$
Operating Temperature Range KA78XX/A	T_{OPR}	$0 \sim +125$	$^\circ\text{C}$
KA78XXI		$-40 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-65 \sim +150$	$^\circ\text{C}$

KA7805/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500\text{mA}$, $V_I = 10\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions		KA7805I			KA7805			Unit	
				Min	Typ	Max	Min	Typ	Max		
Output Voltage	V _O	T _J = 25°C		4.8	5.0	5.2	4.8	5.0	5.2	V	
		5.0mA ≤ I _O ≤ 1.0A, P _O ≤ 15W V _I = 7V to 20V V _I = 8V to 20V					4.75	5.0	5.25		
				4.75	5.0	5.25					
Line Regulation	ΔV _O	T _J = 25°C	V _O = 7V to 25V		4.0	100		4.0	100	mV	
			V _I = 8V to 12V		1.6	50		1.6	50		
Load Regulation	ΔV _O	T _J = 25°C	I _O = 5.0mA to 1.5A		9	100		9	100	mV	
			I _O = 250mA to 750mA		4	50		4	50		
Quiescent Current	I _O	T _J = 25°C				5.0	8		5.0	8	mA
Quiescent Current Change	ΔI _O	I _O = 5mA to 1.0A				0.03	0.5		0.03	0.5	mA
		V _I = 7V to 25V							0.3	1.3	
		V _I = 8V to 25V				0.3	1.3				
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA				-0.8			-0.8		mV/°C
Output Noise Voltage	V _N	f = 10Hz to 100Khz, T _A = 25°C				42			42		μV
Ripple Rejection	RR	f = 120Hz V _O = 8 to 18V			62	73		62	73		dB
Dropout Voltage	V _O	I _O = 1A, T _J = 25°C				2			2		V
Output Resistance	R _O	f = 1KHz				15			15		mΩ
Short Circuit Current	I _{SC}	V _I = 35V, T _A = 25°C				230			230		mA
Peak Current	I _{PK}	T _J = 25°C				2.2			2.2		A

* $T_{MIN} < T_J < T_{MAX}$

KA78XXI; $T_{MIN} = -40^\circ\text{C}$, $T_{MAX} = 125^\circ\text{C}$

KA78XX; $T_{MIN} = 0^\circ\text{C}$, $T_{MAX} = 125^\circ\text{C}$

* Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.

KA7806/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 11V$ $C_I = 0.33 \mu F$, $C_O = 0.1 \mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions		KA7806I			KA7806			Unit
				Min	Typ	Max	Min	Typ	Max	
Output Voltage	V _O	T _J = 25℃		5.75	6.0	6.25	5.75	6.0	6.25	V
		5.0mA ≤ I _O ≤ 1.0A, P _O ≤ 15W V _I = 8.0V to 21V V _I = 9.0V to 21V								
				5.7	6.0	6.3	5.7	6.0	6.3	
Line Regulation	ΔV _O	T _J =25℃	V _I = 8V to 25V V _I = 9V to 13V		5 1.5	120 60		5 1.5	120 60	mV
Load Regulation	ΔV _O	T _J =25℃	I _O =5mA to 1.5A I _O =250mA to750A		9 3	120 60		9 3	120 60	mV
Quiescent Current	I _Q	T _J = 25℃			5.0	8		5.0	8	mA
Quiescent Current Change	ΔI _Q	I _O = 5mA to 1A				0.5			0.5	mA
		V _I = 8V to 25V						1.3		
		V _I = 9V to 25V				1.3				
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA			-0.8			-0.8		mV/℃
Output NoiseVoltage	V _N	f = 10Hz to 100KHz, T _A = 25℃			45			45		μV
Ripple Rejection	RR	f = 120Hz V _I = 9V to 19V		59	75		59	75		dB
Dropout Voltage	V _D	I _O = 1A, T _J = 25℃			2			2		V
Output Resistance	R _D	f = 1KHz			19			19		mΩ
Short Circuit Current	I _{sc}	V _I = 35V, T _A = 25℃			250			250		mA
Peak Current	I _{PK}	T _J = 25℃			2.2			2.2		A

KA7808/I ELECTRICAL CHARACTERISTICS

(Refer to test Circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 14V$, $C_I = 0.33\mu F$, $C_O = 0.1\mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions		KA7808I			KA7808			Unit
				Min	Typ	Max	Min	Typ	Max	
Output Voltage	V _O	T _J = 25°C		7.7	8.0	8.3	7.7	8.0	8.3	V
		5.0mA ≤ I _O ≤ 1.0A, P _O ≤ 15W V _I = 10.5V to 23V V _I = 11.5V to 23V		7.6	8.0	8.4	7.6	8.0	8.4	
Line Regulation	ΔV _O	T _J = 25°C	V _I = 10.5V to 25V		5.0	160		5.0	160	mV
			V _I = 11.5V to 17V		2.0	80		2.0	80	
Load Regulation	ΔV _O	T _J = 25°C	I _O = 5.0mA to 1.5A		10	160		10	160	mV
			I _O = 250mA to 750mA		5.0	80		5.0	80	
Quiescent Current	I _Q	T _J = 25°C			5.0	8		5.0	8	mA
Quiescent Current Change	ΔI _Q	I _O = 5mA to 1.0A			0.05	0.5		0.05	0.5	mA
		V _I = 10.5A to 25V						0.5	1.0	
		V _I = 11.5V to 25V			0.5	1.0				
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA			-0.8			-0.8		mV/°C
Output Voltage Voltage	V _N	f = 10Hz to 100Khz, T _A = 25°C			52			52		μV
Ripple Rejection	RR	f = 120Hz, V _I = 11.5V to 21.5		56	73		56	73		dB
Dorpout Voltage	V _D	I _O = 1A, T _J = 25°C			2			2		V
Output Resistance	R _O	f = 1KHz			17			17		mΩ
Short Circuit Current	I _{sc}	V _I = 35V, T _A = 25°C			230			230		mA
Peak Current	I _{PK}	T _J = 25°C			2.2			2.2		A

KA7809/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit. $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 15V$, $C_I = 0.33\mu F$, $C_O = 0.1\mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions		KA7809I			KA7809			Unit
				Min	Typ	Max	Min	Typ	Max	
Output Voltage	V _O	T _J = 25°C		8.65	9	9.35	8.65	9	9.35	V
		5.0mA ≤ I _O ≤ 1.0A, P _D ≤ 15W								
		V _I = 11.5V to 24V V _I = 12.5V to 24V		8.6	9	9.4	8.6	9	9.4	
Line Regulation	ΔV _O	T _J = 25°C	V _I = 11.5V to 25V		6	180		6	180	mV
			V _I = 12V to 25v		2	90		2	90	
Load Regulation	ΔV _O	T _J = 25°C	I _O = 5mA to 1.5A		12	180		12	180	mV
			I _O = 250mA to 750mA		4	90		4	90	
Quiescent Current	I _O	T _J = 25°C			5.0	8		5.0	8	mA
Quiescent Current Change	ΔI _O	I _O = 5mA to 1.0A				0.5			0.5	mA
		V _I = 11.5V to 26V							1.3	
		V _I = 12.5V to 26V				1.3				
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA			-1			-1		mV/°C
Output Noise Voltage	V _N	f = 10Hz to 100Khz, T _A = 25°C			58			58		μV
Ripple Rejection	RR	f = 120Hz V _I = 13V to 23V		56	71		56	71		dB
Dropout Voltage	V _D	I _O = 1A, T _J = 25°C			2			2		V
Output Resistance	R _O	f = 1KHz			17			17		mΩ
Short Circuit Current	I _{sc}	V _I = 35V, T _A = 25°C			250			250		mA
Peak Current	I _{PK}	T _J = 25°C			2.2			2.2		A

KA7810/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 16V$, $C_I = 0.33 \mu F$, $C_O = 0.1 \mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	KA7810I			KA7810			Unit
			Min	Typ	Max	Min	Typ	Max	
Output Voltage	V_O	$T_J = 25^\circ C$	9.6	10	10.4	9.6	10	10.4	V
		$5.0mA \leq I_O \leq 1.0A$, $P_O \leq 15W$							
		$V_I = 12.5V$ to $25V$ $V_I = 13.5V$ to $25V$	9.5	10	10.5	9.5	10	10.5	
Line Regulation	ΔV_O	$T_J = 25^\circ C$		10	200		10	200	mV
				3	100		3	100	
Load Regulation	ΔV_O	$T_J = 25^\circ C$		12	200		12	200	mV
				4	400		4	400	
Quiescent Current	I_Q	$T_J = 25^\circ C$		5.1	8		5.1	8	mA
Quiescent Current Change	ΔI_Q	$I_O = 5mA$ to $1.0A$			0.5			0.5	mA
		$V_I = 12.5V$ to $29V$						1.0	
		$V_I = 13.5V$ to $29V$			1.0				
Output Voltage Drift	$\Delta V_O / \Delta T$	$I_O = 5mA$		-1			-1		mV/ $^\circ C$
Output Noise Voltage	V_N	$f = 10Hz$ to $100KHz$, $T_A = 25^\circ C$		58			58		μV
Ripple Rejection	RR	$f = 120Hz$ $V_I = 13V$ to $23V$	56	71		56	71		dB
Dropout Voltage	V_D	$I_O = 1A$, $T_J = 25^\circ C$		2			2		V
Output Resistance	R_O	$f = 1KHz$		17			17		$m\Omega$
Short Circuit Current	I_{SC}	$V_I = 35V$, $T_A = 25^\circ C$		250			250		mA
Peak Current	I_{PK}	$T_J = 25^\circ C$		2.2			2.2		A

KA7811/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 18V$, $C_I = 0.33\mu F$, $C_O = 0.1\mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	KA7810I			KA7810			Unit	
			Min	Typ	Max	Min	Typ	Max		
Output Voltage	V _O	T _J = 25°C	10.6	11	11.4	10.6	10	10.4	V	
		5.0mA ≤ I _O ≤ 1.0A, P _O ≤ 15W V _I = 13.5V to 26V V _I = 14.5V to 26V								
			10.5	11	11.5		10.5	10		10.5
Line Regulation	ΔV _O	T _J = 25°C	V _I = 13.5V to 25V		10	200		10	220	mV
			V _I = 14V to 21V		3.0	110		3	110	
Load Regulation	ΔV _O	T _J = 25°C	I _O = 5.0mA to 1.5A		12	220		12	220	mV
			I _O = 250mA to 750mA		4	110		4	110	
Quiescent Current	I _O	T _J = 25°C		5.1	8		5.1	8	mA	
Quiescent Current Change	ΔI _O	I _O = 5mA to 1.0A			0.5			0.5	mA	
		V _I = 13.5V to 29V					1.0			
		V _I = 14.5V to 29V			1.0					
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA		-1			-1		mV/°C	
Output Noise Voltage	V _N	f = 10Hz to 100KHz, T _A = 25°C		58			58		μV	
Ripple Rejection	RR	f = 120Hz V _I = 14V to 24V	55	71		55	71		dB	
Dropout Voltage	V _D	I _O = 1A, T _J = 25°C		2			2		V	
Output Resistance	R _O	f = 1KHz		18			18		mΩ	
Short Circuit Current	I _{SC}	V _I = 35V, T _A = 25°C		250			250		mA	
Peak Current	I _{PK}	T _J = 25°C		2.2			2.2		A	

KA7812/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 19V$, $C_I = 0.33 \mu F$, $C_O = 0.1 \mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	KA7810I			KA7810			Unit	
			Min	Typ	Max	Min	Typ	Max		
Output Voltage	V _O	T _J = 25°C	11.5	12	12.5	11.5	12	12.5	V	
		5.0mA ≤ I _O ≤ 1.0A, P _O ≤ 15W V _I = 14.5V to 27V V _I = 15.5V to 27V	11.4	12	12.6	11.4	12	12.6		
Line Regulation	ΔV _O	T _J = 25°C	V _I = 14.5V to 30V		10	240		10	240	mV
			V _I = 16V to 22V		3.0	120		3.0	120	
Load Regulation	ΔV _O	T _J = 25°C	I _O = 5mA to 1.5A		11	240		11	240	mV
			I _O = 250mA to 750mA		5.0	120		5.0	120	
Quiescent Current	I _Q	T _J = 25°C		5.1	8		5.1	8	mA	
Quiescent Current Change	ΔI _Q	I _O = 5mA to 1.0A		0.1	0.5		0.1	0.5	mA	
		V _I = 14.5V to 30V				0.5	1.0			
		V _I = 15V to 30V			1.0					
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA		-1			-1		mV/°C	
Output Noise Voltage	V _N	f = 10Hz to 100Khz, T _A = 25°C		76			76		μV	
Ripple Rejection	RR	f = 120Hz V _I = 15V to 25V	55	71		55	71		dB	
Dropout Voltage	V _D	I _O = 1A, T _J = 25°C		2			2		V	
Output Resistance	R _O	f = 1KHz		18			18		mΩ	
Short Circuit Current	I _{sc}	V _I = 35V, T _A = 25°C		230			230		mA	
Peak Current	I _{PK}	T _J = 25°C		2.2			2.2		A	

KA7815/I ELECTRICAL CHARACTERISTICS(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500\text{mA}$, $V_I = 23\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions		KA7810I			KA7810			Unit
				Min	Typ	Max	Min	Typ	Max	
Output Voltage	V _O	T _J = 25°C		14.4	15	15.6	14.4	15	15.6	V
		5.0mA ≤ I _O ≤ 1.0A, P _D ≤ 15W V _I = 17.5V to 30V V _I = 18.5V to 30V		14.25	15	15.75	14.25	15	15.75	
Line Regulation	Δ V _O	T _J = 25°C	V _I = 17.5V to 30V V _I = 20V to 26V		11 3	300 150		11 3	300 150	mV
Load Regulation	Δ V _O	T _J = 25°C	I _O = 5mA to 1.5A I _O = 250mA to 750mA		12 4	300 150		12 4	300 150	mV
Quiescent Current	I _O	T _J = 25°C			5.2	8		5.2	8	mA
Quiescent Current Change	Δ I _O	I _O = 5mA to 1.0A				0.5			0.5	mA
		V _I = 17.5V to 30V						1.0		
		V _I = 18.5V to 30V				1.0				
Output Voltage Drift	Δ V _O /Δ T	I _O = 5mA			-1			-1		mV/°C
Output Noise Voltage	V _N	f = 10Hz to 100Khz, T _A = 25°C			90			90		μ V
Ripple Rejection	RR	f = 120Hz V _I = 18.5V to 28.5V		54	70		54	70		dB
Dropout Voltage	V _O	I _O = 1A, T _J = 25°C			2			2		V
Output Resistance	R _O	f = 1KHz			19			19		mΩ
Short Circuit Current	I _{sc}	V _I = 35V, T _A = 25°C			250			250		mA
Peak Current	I _{PK}	T _J = 25°C			2.2			2.2		A

KA7818/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 27V$, $C_I = 0.33 \mu F$, $C_O = 0.1 \mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions		KA7810I			KA7810			Unit
				Min	Typ	Max	Min	Typ	Max	
Output Voltage	V _O	T _J = 25°C		17.3	18	18.7	17.3	18	18.7	V
		5.0mA ≤ I _O ≤ 1.0A, P _O ≤ 15W V _I = 21V to 33V V _I = 22V to 33V		17.1	18	18.9	17.1	18	18.9	
Line Regulation	Δ V _O	T _J = 25°C	V _I = 21V to 33V		15	360		15	360	mV
			V _I = 24V to 30V		5	180		5	180	
Load Regulation	Δ V _O	T _J = 25°C	I _O = 5mA to 1.5A		15	360		15	360	mV
			I _O = 250mA to 750mA		5.0	180		5.0	180	
Quiescent Current	I _Q	T _J = 25°C			5.2	8		5.2	8	mA
Quiescent Current Change	Δ I _Q	I _O = 5mA to 1.0A				0.5			0.5	mA
		V _I = 21V to 33V							1	
		V _I = 22V to 33V				1.0				
Output Voltage Drift	Δ V _O /Δ T	I _O = 5mA			-1			-1		mV/°C
Output Noise Voltage	V _N	f = 10Hz to 100Khz, T _A = 25°C			110			110		μ V
Ripple Rejection	RR	f = 120Hz V _I = 22V to 32V		53	69		53	69		dB
Dropout Voltage	V _D	I _O = 1A, T _J = 25°C			2			2		V
Output Resistance	R _O	f = 1KHz			22			22		mΩ
Short Circuit Current	I _{sc}	V _I = 35V, T _A = 25°C			250			250		mA
Peak Current	I _{PK}	T _J = 25°C			2.2			2.2		A

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KA7824/I ELECTRICAL CHARACTERISTICS

(Refer to test circuit, $T_{MIN} < T_J < T_{MAX}$, $I_O = 500mA$, $V_I = 33V$, $C_I = 0.33\mu F$, $C_O = 0.1\mu F$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	KA7810I			KA7810			Unit
			Min	Typ	Max	Min	Typ	Max	
Output Voltage	V_O	$T_J = 25^\circ C$	23	24	25	23	24	25	V
		$5.0mA \leq I_O \leq 1.0A$, $P_O \leq 15W$				22.8	24	25.25	
		$V_I = 27V$ to $38V$ $V_I = 28V$ to $38V$	22.8	24	25.2				
Line Regulation	ΔV_O	$T_J = 25^\circ C$	$V_I = 27V$ to $38V$				17	480	mV
			$V_I = 30V$ to $36V$				6	240	
Load Regulation	ΔV_O	$T_J = 25^\circ C$	$I_O = 5mA$ to $1.5A$				15	480	mV
			$I_O = 250mA$ to $750mA$				5.0	240	
Quiescent Current	I_Q	$T_J = 25^\circ C$		5.2	8		5.2	8	mA
Quiescent Current Change	ΔI_Q	$I_O = 5mA$ to $1.0A$		0.1	0.5		0.1	0.5	mA
		$V_I = 27V$ to $38V$					0.5	1	
		$V_I = 28V$ to $38V$		0.5	1				
Output Voltage Drift	$\Delta V_O / \Delta T$	$I_O = 5mA$		-1.5			-1.5		mV/ $^\circ C$
Output Noise Voltage	V_N	$f = 10Hz$ to $100KHz$, $T_A = 25^\circ C$		160			58		μV
Ripple Rejection	RR	$f = 120Hz$ $V_I = 28V$ to $38V$	50	67		50	67		dB
Dropout Voltage	V_D	$I_O = 1A$, $T_J = 25^\circ C$		2			2		V
Output Resistance	R_O	$f = 1KHz$		28			28		$m\Omega$
Short Circuit Current	I_{SC}	$V_I = 35V$, $T_A = 25^\circ C$		230			230		mA
Peak Current	I_{PK}	$T_J = 25^\circ C$		2.2			2.2		A

KA7805A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 125°C , $I_o = 1\text{A}$, $V_i = 10\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^{\circ}\text{C}$	4.9	5	5.1	V
		$I_o = 5\text{mA}$ to 1A , $P_D \leq 15\text{W}$ $V_i = 7.5$ to 20V	4.8	5	5.2	
• Line Regulation	ΔV_o	$V_i = 7.5$ to 25V $I_o = 500\text{mA}$		5	50	V
		$V_i = 8\text{V}$ to 12V		3	50	
		$T_J = 25^{\circ}\text{C}$ $V_i = 7.3\text{V}$ to 25V		5	50	
		$T_J = 25^{\circ}\text{C}$ $V_i = 8\text{V}$ to 12V		1.5	25	
• Load Regulation	ΔV_o	$T_J = 25^{\circ}\text{C}$ $I_o = 5\text{mA}$ to 1.5A		9	100	V
		$I_o = 5\text{mA}$ to 1A		9	100	
		$I_o = 250$ to 750mA		4	50	
Quiescent Current	I_q	$T_J = 25^{\circ}\text{C}$		5.0	6	mA
Quiescent Current Change	ΔI_o	$I_o = 5\text{mA}$ to 1A			0.5	mA
		$V_i = 8\text{V}$ to 25V , $I_o = 500\text{mA}$			0.8	
		$V_i = 7.5\text{V}$ to 20V , $T_J = 25^{\circ}\text{C}$			0.8	
Output Voltage Drift	$\frac{\Delta V_o}{\Delta T}$	$I_o = 5\text{mA}$		-0.8		mV/ $^{\circ}\text{C}$
Output Noise Voltage	V_N	$f = 10\text{Hz}$ to 100KHz $T_A = 25^{\circ}\text{C}$		10		$\frac{\mu\text{V}}{V_o}$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 500\text{mA}$ $V_i = 8\text{V}$ to 18V		68		dB
Dropout Voltage	V_D	$I_o = 1\text{A}$, $T_J = 25^{\circ}\text{C}$		2		V
Output Resistance	R_o	$f = 1\text{KHz}$		17		m Ω
Short Circuit Current	I_{SC}	$V_i = 35\text{V}$, $T_A = 25^{\circ}\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^{\circ}\text{C}$		2.2		A

KA7806A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 150°C , $I_o = 1\text{A}$, $V_I = 11\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	5.58	6	6.12	V
		$I_o = 5\text{mA}$ to 1A , $P_D \leq 15\text{W}$ $V_I = 8.6$ to 21V	5.76	6	6.24	
• Line Regulation	ΔV_O	$V_I = 8.6$ to 25V $I_o = 500\text{mA}$		5	60	mV
		$V_I = 9\text{V}$ to 13V		3	60	
		$T_J = 25^\circ\text{C}$ $V_I = 8.3\text{V}$ to 21V		5	60	
		$V_I = 9\text{V}$ to 13V		1.5	30	
• Load Regulation	ΔV_O	$T_J = 25^\circ\text{C}$ $I_o = 5\text{mA}$ to 1.5A		9	100	mV
		$I_o = 5\text{mA}$ to 1A		4	100	
		$I_o = 250$ to 750mA		5.0	50	
		$T_J = 25^\circ\text{C}$		4.3	6	
Quiescent Current	I_o	$T_J = 25^\circ\text{C}$		4.3	6	mA
Quiescent Current Change	ΔI_o	$I_o = 5\text{mA}$ to 1A			0.5	mA
		$V_I = 9\text{V}$ to 25V , $I_o = 500\text{mA}$			0.8	
		$V_I = 8.5\text{V}$ to 21V , $T_J = 25^\circ\text{C}$			0.8	
Output Voltage Drift	$\frac{\Delta V_O}{\Delta T}$	$I_o = 5\text{mA}$		-0.8		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$f = 10\text{Hz}$ to 100KHz $T_A = 25^\circ\text{C}$		10		$\frac{\mu\text{V}}{V_O}$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 500\text{mA}$ $V_I = 9\text{V}$ to 19V		65		dB
Dropout Voltage	V_D	$I_o = 1\text{A}$, $T_J = 25^\circ\text{C}$		2		V
Output Resistance	R_O	$f = 1\text{KHz}$		17		m Ω
Short Circuit Current	I_{SC}	$V_I = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7808A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 150°C , $I_o = 1\text{A}$, $V_i = 14\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	7.84	8	8.16	V
		$I_o = 5\text{mA to } 1\text{A}$, $P_o \leq 15\text{W}$ $V_i = 8.6$ to 21V	7.7	8	8.3	
• Line Regulation	ΔV_o	$V_i = 10.6$ to 25V $I_o = 500\text{mA}$		6	80	mV
		$V_i = 11$ to 17V		3	80	
		$T_J = 25^\circ\text{C}$ $V_i = 10.4\text{V to } 23\text{V}$		6	80	
		$V_i = 11\text{V to } 17\text{V}$		2	40	
• Load Regulation	ΔV_o	$T_J = 25^\circ\text{C}$ $I_o = 5\text{mA to } 1.5\text{A}$		12	100	mV
		$I_o = 5\text{mA to } 1\text{A}$		12	100	
		$I_o = 250$ to 750mA		5	50	
Quiescent Current	I_o	$T_J = 25^\circ\text{C}$		5.0	6	mA
Quiescent Current Change	ΔI_o	$I_o = 5\text{mA to } 1\text{A}$			0.5	mA
		$V_i = 11\text{V to } 25\text{V}$, $I_o = 500\text{mA}$			0.8	
		$V_i = 10.6\text{V to } 23\text{V}$, $T_J = 25^\circ\text{C}$			0.8	
Output Voltage Drift	$\frac{\Delta V_o}{\Delta T}$	$I_o = 5\text{mA}$		-0.8		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$f = 10\text{Hz to } 100\text{KHz}$ $T_A = 25^\circ\text{C}$		10		$\frac{\mu\text{V}}{V_o}$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 500\text{mA}$ $V_i = 11.5\text{V to } 21.5\text{V}$		62		dB
Dropout Voltage	V_D	$I_o = 1\text{A}$, $T_J = 25^\circ\text{C}$		2		
Output Resistance	R_o	$f = 1\text{KHz}$		18		$\text{m}\Omega$
Short Circuit Current	I_{sc}	$V_i = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7809A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 125°C , $I_o = 1\text{A}$, $V_i = 15\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	8.82	9.0	9.18	V
		$I_o = 5\text{mA to } 1\text{A}$, $P_o \leq 15\text{W}$ $V_i = 11.2\text{ to } 24\text{V}$	8.65	9.0	9.35	
• Line Regulation	ΔV_o	$V_i = 11.7\text{ to } 25\text{V}$ $I_o = 500\text{mA}$		6	90	mV
		$V_i = 12.5\text{ to } 19\text{V}$		4	45	
		$T_J = 25^\circ\text{C}$ $V_i = 11.5\text{V to } 24\text{V}$		6	89	
		$V_i = 12.5\text{V to } 19\text{V}$		2	45	
• Load Regulation	ΔV_o	$T_J = 25^\circ\text{C}$ $I_o = 5\text{mA to } 1.0\text{A}$		12	100	mV
		$I_o = 5\text{mA to } 1.0\text{A}$		12	100	
		$I_o = 250\text{ to } 750\text{mA}$		5	50	
Quiescent Current	I_o	$T_J = 25^\circ\text{C}$		5.0	6.0	mA
Quiescent Current Change	ΔI_o	$V_i = 11.7\text{V to } 25\text{V}$, $T_J = 25^\circ\text{C}$			0.8	mA
		$V_i = 12\text{V to } 25\text{V}$, $I_o = 500\text{mA}$			0.8	
		$I_o = 5\text{mA to } 1.0\text{A}$			0.5	
Output Voltage Drift	$\frac{\Delta V_o}{\Delta T}$	$I_o = 5\text{mA}$		-0.8		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz to } 100\text{KHz}$ $T_A = 25^\circ\text{C}$		10		$\frac{\mu\text{V}}{V_o}$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 500\text{mA}$ $V_i = 12\text{V to } 22\text{V}$		62		dB
Dropout Voltage	V_D	$I_o = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_o	$f = 1\text{KHz}$		17		mΩ
Short Circuit Current	I_{sc}	$V_i = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7810A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 125°C , $I_O = 1\text{A}$, $V_I = 16\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	9.8	10	10.2	V
		$I_O = 5\text{mA}$ to 1A , $P_D \leq 15\text{W}$ $V_I = 12.8$ to 25V	9.6	10	10.4	
• Line Regulation	ΔV_O	$V_I = 12.8$ to 26V $I_O = 500\text{mA}$		8	100	mV
		$V_I = 13$ to 20V		4	50	
		$T_J = 25^\circ\text{C}$ $V_I = 12.5\text{V}$ to 25V		8	100	
		$V_I = 13\text{V}$ to 20V		3	50	
• Load Regulation	ΔV_O	$T_J = 25^\circ\text{C}$ $I_O = 5\text{mA}$ to 1.5A		12	100	mV
		$I_O = 5\text{mA}$ to 1.0A		12	100	
		$I_O = 250$ to 750mA		5	50	
Quiescent Current	I_O	$T_J = 25^\circ\text{C}$		5.0	6.0	mA
Quiescent Current Change	ΔI_O	$V_I = 13\text{V}$ to 26V , $T_J = 25^\circ\text{C}$			0.5	mA
		$V_I = 12.8\text{V}$ to 25V , $I_O = 500\text{mA}$			0.8	
		$I_O = 5\text{mA}$ to 1.0A			0.5	
Output Voltage Drift	$\frac{\Delta V_O}{\Delta T}$	$I_O = 5\text{mA}$		-1.0		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz}$ to 100KHz $T_A = 25^\circ\text{C}$		10		$\frac{\mu\text{V}}{V_O}$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_O = 500\text{mA}$ $V_I = 14\text{V}$ to 24V		62		dB
Dropout Voltage	V_D	$I_O = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_O	$f = 1\text{KHz}$		17		mΩ
Short Circuit Current	I_{SC}	$V_I = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7811A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 125°C , $I_o = 1\text{A}$, $V_i = 18\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	10.8	11.0	11.2	V
		$I_o = 5\text{mA to } 1\text{A}$, $P_o \leq 15\text{W}$ $V_i = 13.8\text{ to } 26\text{V}$	10.6	11.0	11.4	
• Line Regulation	ΔV_o	$V_i = 12.8\text{ to } 26\text{V}$ $I_o = 500\text{mA}$		10	110	mV
		$V_i = 15\text{ to } 21\text{V}$		4	55	
		$T_J = 25^\circ\text{C}$ $V_i = 13.5\text{V to } 26\text{V}$		3	110	
		$V_i = 15\text{V to } 21\text{V}$		3	55	
• Load Regulation	ΔV_o	$T_J = 25^\circ\text{C}$ $I_o = 5\text{mA to } 1.5\text{A}$		12	100	mV
		$I_o = 5\text{mA to } 1.0\text{A}$		12	100	
		$I_o = 250\text{ to } 750\text{mA}$		5	50	
Quiescent Current	I_o	$T_J = 25^\circ\text{C}$		5.1	6.0	mA
Quiescent Current Change	ΔI_o	$V_i = 13.8\text{V to } 26\text{V}$, $T_J = 25^\circ\text{C}$			6.0	mA
		$V_i = 14\text{V to } 27\text{V}$, $I_o = 500\text{mA}$			0.8	
		$I_o = 5\text{mA to } 1.0\text{A}$			0.5	
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$		-1.0		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz to } 100\text{KHz}$ $T_A = 25^\circ\text{C}$		10		$\mu\text{V} / V_o$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 500\text{mA}$ $V_i = 14\text{V to } 24\text{V}$		62		dB
Dropout Voltage	V_D	$I_o = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_o	$f = 1\text{KHz}$		17		m Ω
Short Circuit Current	I_{sc}	$V_i = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7812A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 125°C , $I_O = 1\text{A}$, $V_I = 19\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	11.75	12	12.25	V
		$I_O = 5\text{mA}$ to 1A , $P_D \leq 15\text{W}$ $V_I = 14.8$ to 27V	11.5	12	12.5	
• Line Regulation	ΔV_O	$V_I = 14.8$ to 30V $I_O = 500\text{mA}$		10	120	mV
		$V_I = 16$ to 22V		4	120	
		$T_J = 25^\circ\text{C}$ $V_I = 14.5\text{V}$ to 27V		10	120	
		$V_I = 16\text{V}$ to 22V		3	60	
• Load Regulation	ΔV_O	$T_J = 25^\circ\text{C}$ $I_O = 5\text{mA}$ to 1.5A		12	100	mV
		$I_O = 5\text{mA}$ to 1.0A		12	100	
		$I_O = 250$ to 750mA		5	50	
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$		5.1	6.0	mA
Quiescent Current Change	ΔI_Q	$V_I = 15\text{V}$ to 30V , $T_J = 25^\circ\text{C}$			6.0	mA
		$V_I = 14\text{V}$ to 27V , $I_O = 500\text{mA}$			0.8	
		$I_O = 5\text{mA}$ to 1.0A			0.5	
Output Voltage Drift	$\Delta V_O / \Delta T$	$I_O = 5\text{mA}$		-1.0		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz}$ to 100KHz $T_A = 25^\circ\text{C}$		10		$\mu\text{V} / V_O$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_O = 500\text{mA}$ $V_I = 14\text{V}$ to 24V		60		dB
Dropout Voltage	V_D	$I_O = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_O	$f = 1\text{KHz}$		17		m Ω
Short Circuit Current	I_{SC}	$V_I = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7815A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 150°C , $I_O = 1\text{A}$, $V_I = 23\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	14.7	15	15.3	V
		$I_O = 5\text{mA to } 1\text{A}$, $P_D \leq 15\text{W}$ $V_I = 17.7\text{ to } 30\text{V}$	14.4	15	15.6	
• Line Regulation	ΔV_O	$V_I = 17.9\text{ to } 30\text{V}$ $I_O = 500\text{mA}$		10	150	mV
		$V_I = 20\text{ to } 26\text{V}$		5	150	
		$T_J = 25^\circ\text{C}$ $V_I = 17.5\text{V to } 30\text{V}$		11	150	
		$V_I = 20\text{V to } 26\text{V}$		3	75	
• Load Regulation	ΔV_O	$T_J = 25^\circ\text{C}$ $I_O = 5\text{mA to } 1.5\text{A}$		12	100	mV
		$I_O = 5\text{mA to } 1.0\text{A}$		12	100	
		$I_O = 250\text{ to } 750\text{mA}$		5	50	
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$		5.2	6.0	mA
Quiescent Current Change	ΔI_Q	$V_I = 17.5\text{V to } 30\text{V}$, $T_J = 25^\circ\text{C}$			0.5	mA
		$V_I = 17.5\text{V to } 30\text{V}$, $I_O = 500\text{mA}$			0.8	
		$I_O = 5\text{mA to } 1.0\text{A}$			0.8	
Output Voltage Drift	$\Delta V_O / \Delta T$	$I_O = 5\text{mA}$		-1.0		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz to } 100\text{KHz}$ $T_A = 25^\circ\text{C}$		10		$\mu\text{V} / V_O$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_O = 500\text{mA}$ $V_I = 18.5\text{V to } 28.5\text{V}$		58		dB
Dropout Voltage	V_D	$I_O = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_O	$f = 1\text{KHz}$		19		m Ω
Short Circuit Current	I_{SC}	$V_I = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7818A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 150°C , $I_o = 1\text{A}$, $V_i = 27\text{V}$, $C_1 = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	17.64	18	18.36	V
		$I_o = 5\text{mA}$ to 1A , $P_D \leq 15\text{W}$ $V_i = 21$ to 33V	17.3	18	18.7	
• Line Regulation	ΔV_o	$V_i = 21$ to 33V $I_o = 500\text{mA}$		15	180	mV
		$V_i = 21$ to 33V		5	180	
		$T_J = 25^\circ\text{C}$ $V_i = 20.6\text{V}$ to 33V		15	180	
		$T_J = 25^\circ\text{C}$ $V_i = 24\text{V}$ to 30V		5	90	
• Load Regulation	ΔV_o	$T_J = 25^\circ\text{C}$ $I_o = 5\text{mA}$ to 1.5A		15	100	mV
		$I_o = 5\text{mA}$ to 1.0A		15	100	
		$I_o = 250$ to 750mA		7	50	
		$T_J = 25^\circ\text{C}$		5.2	6.0	
Quiescent Current	I_o	$T_J = 25^\circ\text{C}$		5.2	6.0	mA
		$V_i = 21\text{V}$ to 33V , $T_J = 25^\circ\text{C}$			0.5	
		$V_i = 21\text{V}$ to 33V , $I_o = 500\text{mA}$			0.8	
Quiescent Current Change	ΔI_o	$I_o = 5\text{mA}$ to 1.0A			0.8	mA
					0.8	
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$		-1.0		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz}$ to 100KHz $T_A = 25^\circ\text{C}$		10		$\mu\text{V} / V_o$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 500\text{mA}$ $V_i = 18.5\text{V}$ to 28.5V		57		dB
Dropout Voltage	V_D	$I_o = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_o	$f = 1\text{KHz}$		19		m Ω
Short Circuit Current	I_{sc}	$V_i = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

KA7824A ELECTRICAL CHARACTERISTICS

(Refer to the test circuits. $T_J = 0$ to 150°C , $I_O = 1\text{A}$, $V_I = 33\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	23.5	24	24.5	V
		$I_O = 5\text{mA}$ to 1A , $P_D \leq 15\text{W}$ $V_I = 27.3$ to 38V	23	24	25	
• Line Regulation	ΔV_O	$V_I = 27$ to 38V $I_O = 500\text{mA}$		18	240	mV
		$V_I = 21$ to 33V		6	240	
		$T_J = 25^\circ\text{C}$ $V_I = 26.7\text{V}$ to 38V		18	240	
		$V_I = 30\text{V}$ to 36V		6	120	
• Load Regulation	ΔV_O	$T_J = 25^\circ\text{C}$ $I_O = 5\text{mA}$ to 1.5A		15	100	mV
		$I_O = 5\text{mA}$ to 1.0A		15	100	
		$I_O = 250$ to 750mA		7	50	
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$		5.2	6.0	mA
Quiescent Current Change	ΔI_Q	$V_I = 27.3\text{V}$ to 38V , $T_J = 25^\circ\text{C}$			0.5	mA
		$V_I = 27.3\text{V}$ to 38V , $I_O = 500\text{mA}$			0.8	
		$I_O = 5\text{mA}$ to 1.0A			0.8	
Output Voltage Drift	$\Delta V_O / \Delta T$	$I_O = 5\text{mA}$		-1.5		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz}$ to 100KHz $T_A = 25^\circ\text{C}$		10		$\mu\text{V} / V_O$
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_O = 500\text{mA}$ $V_I = 18.5\text{V}$ to 28.5V		54		dB
Dropout Voltage	V_D	$I_O = 1\text{A}$, $T_J = 25^\circ\text{C}$		2.0		
Output Resistance	R_O	$f = 1\text{KHz}$		20		m Ω
Short Circuit Current	I_{SC}	$V_I = 35\text{V}$, $T_A = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$		2.2		A

TEST CIRCUITS

Fig. 1 DC Parameters

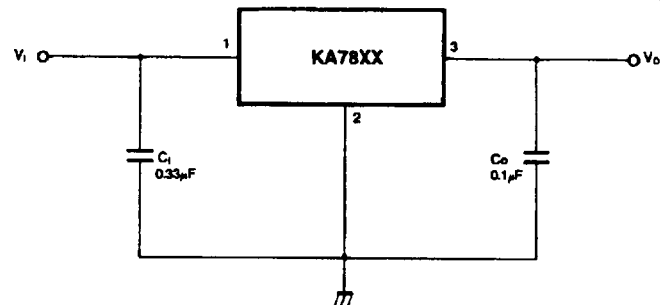


Fig. 2 Load Regulation

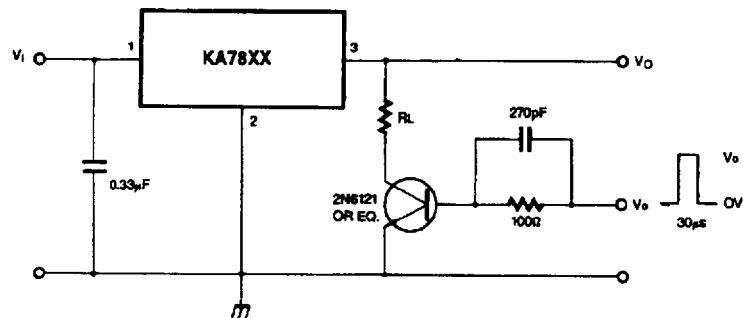
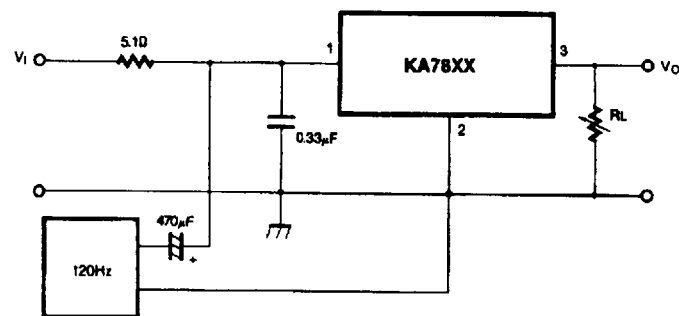


Fig. 3 Ripple Rejection



APPLICATION CIRCUITS

Fig. 4 Fixed Output Regulator

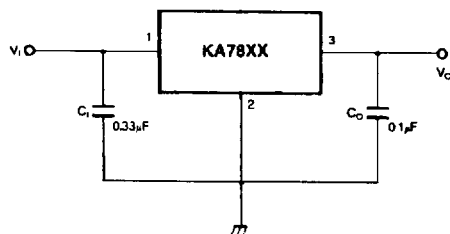
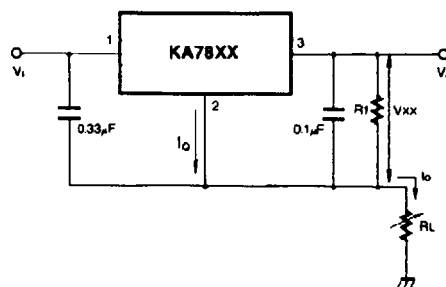


Fig. 5 Constant Current Regulator

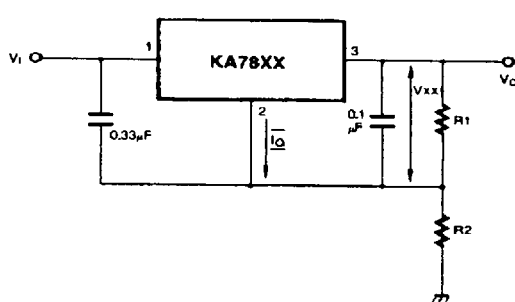


$$I_o = \frac{V_{XX}}{R_1} + I_Q$$

Notes:

- (1) To specify an output voltage, substitute voltage value for "XX."
A common ground is required between the input and the Output voltage. The input voltage must remain typically 2.0V above the output voltage even during the low point on the input ripple voltage.
- (2) C_i is required if regulator is located an appreciable distance from power supply filter.
- (3) C_o improves stability and transient response.

Fig. 6 Circuit for Increasing Output Voltage



$$I_{R1} \geq 5 I_Q$$

$$V_o = V_{XX}(1 + R_2/R_1) + I_Q R_2$$

Fig. 7 Adjustable Output Regulator (7 to 30V)

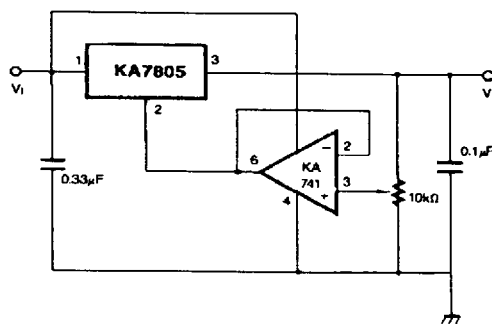


Fig. 8 High Current Voltage Regul3tor

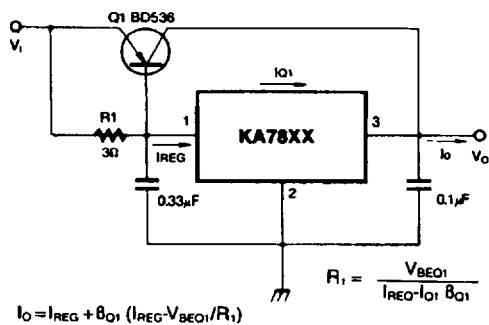


Fig. 9. High Output Current with Short Circuit Protection

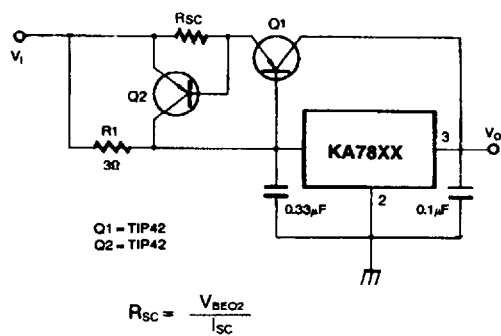


Fig. 10 Tracking Voltage Regulator

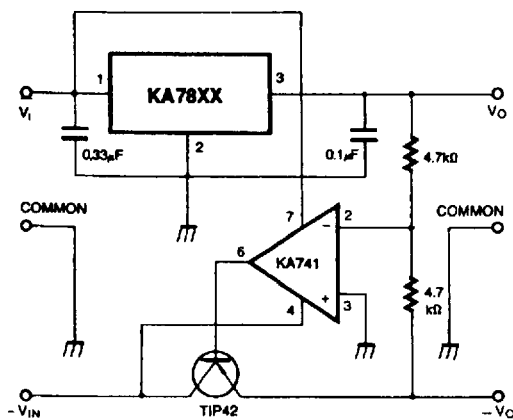


Fig. 11 Split Power Supply (± 15V-1A)

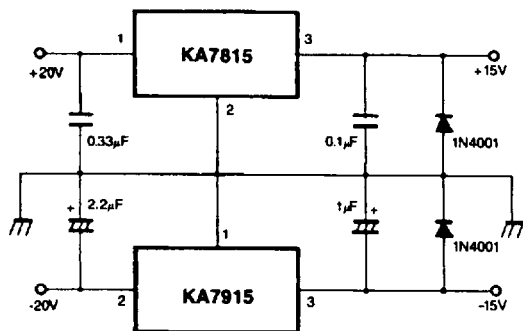


Fig. 12 Negative Output Voltage Circuit

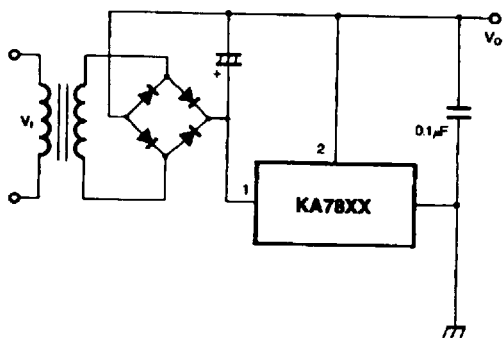
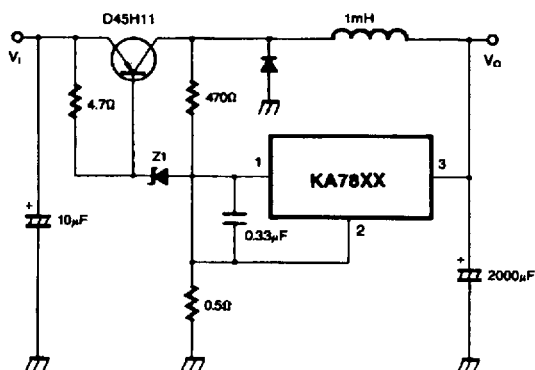


Fig. 13 switching Regulator



TYPICAL PERFORMANCE CHARACTERISTICS

Fig. 14 QUIESCENT CURRENT

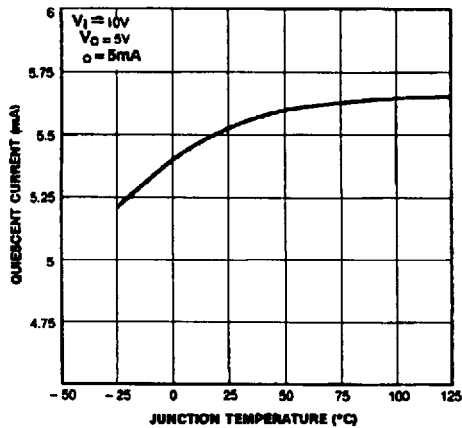


Fig. 15 PEAK OUTPUT CURRENT

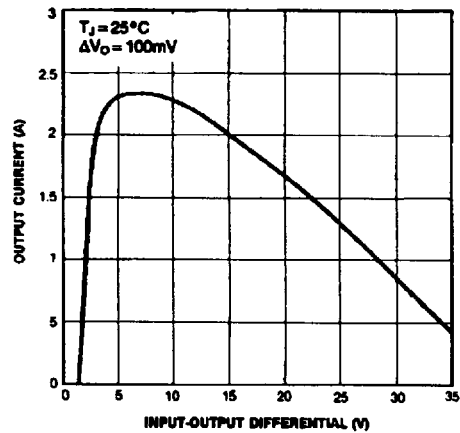


Fig. 16 OUTPUT VOLTAGE

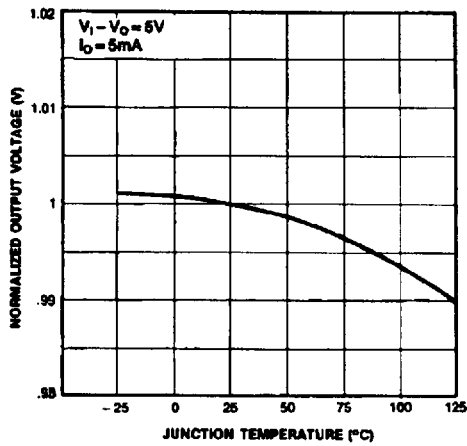
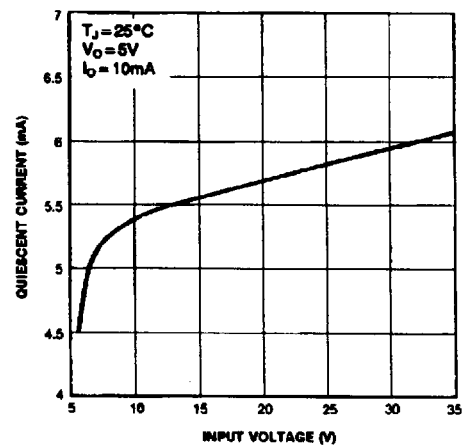


Fig. 17 QUIESCENT CURRENT



Dimensions in Millimeters

