

KA79XX/KA79XXA

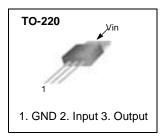
3-Terminal 1A Negative Voltage Regulator

Features

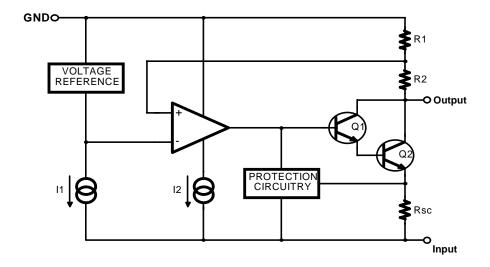
- Output Current in Excess of 1A
- Output Voltages of -5, -6, -8, -9, -10, -12, -15, -18, -24V
- Internal Thermal Overload Protection
- Short Circuit Protection
- Output Transistor Safe Operating Area Compensation

Description

The KA79XX/KA79XXA series of three-terminal negative regulators are available in 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 shutdown and safe operating area protection, making it essentially indestructible.



Internal Block Digram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	VI	-35	V
Thermal Resistance Junction-Case (Note1)	R _θ JC	5	°C/W
Thermal Resistance Junction-Air (Note1, 2)	R _θ JA	65	°C/W
Operating Temperature Range	TOPR	0 ~ +125	°C
Storage Temperature Range	TSTG	- 65 ~ +150	°C

Note:

- Thermal resistance test board Size: 76.2mm * 114.3mm * 1.6mm(1S0P) JEDEC standard: JESD51-3, JESD51-7
- 2. Assume no ambient airflow

Electrical Characteristics (KA7905)

(V_I = -10V, I_O = 500mA, 0° C \leq T_J \leq +125 $^{\circ}$ C, C_I =2.2 μ F, C_O =1 μ F, unless otherwise specified.)

Parameter	Symbol	Con	ditions	Min.	Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-5.0	-5.2	
Output Voltage	Vo	I _O = 5mA to 1A, P _O V _I = -7V to -20V	≤15W	-4.75	-5.0	-5.25	V
Line Regulation (Note3)	ΔVο	T _J = +25°C	V _I = -7V to -25V	-	35	100	mV
Line Regulation (Notes)	700	1J = +25 C	V _I = -8V to -12V	-	8	50	1117
Load Regulation (Note3)	ΔVο	$T_J = +25^{\circ}C$, $I_O = 5n$	nA to 1.5A	-	10	100	mV
Load Regulation (Notes)	ΔνΟ	$T_J = +25$ °C, $I_O = 250$ mA to 750mA	TJ =+25°C, IO = 250mA to 750mA		3	50	IIIV
Quiescent Current	lQ	T _J =+25°C	T _J =+25°C		3	6	mA
Quiescent Current Change	ΔlQ	IO = 5mA to 1A		-	0.05	0.5	mA
Quiescent Current Change		V _I = -8V to -25V		-	0.1	0.8	ША
Temperature Coefficient of VD	ΔVo/ΔΤ	IO = 5mA		-	-0.4	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to $100kHz$,	, T _A = +25°C	-	40	-	μV
Ripple Rejection	RR	$f = 120Hz, \Delta V_I = 10^{\circ}$	V	54	60	-	dB
Dropout Voltage	VD	TJ =+25°C, IO = 1A	TJ =+25°C, IO = 1A		2	-	V
Short Circuit Current	Isc	TJ =+25°C, VI = -35	iV .	-	300	-	mA
Peak Current	IPK	TJ =+25°C		-	2.2	-	Α

Note

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

Electrical Characteristics (KA7906) (Continued)

(VI = -11V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO = 1 μ F, unless otherwise specified.)

Parameter	Symbol	Cond	ditions	Min.	Тур.	Max.	Unit
		T _J =+25°C		-5.75	-6	-6.25	
Output Voltage	VO $I_{O} = 5mA \text{ to } 1A, P_{O} \le 15W$ V _I = -9V to -21V			-5.7	-6	-6.3	V
Line Regulation (Note1)	ΔVο	T _J = +25°C	V _I = -8V to -25V	-	10	120	mV
Line Regulation (Note I)	ΔνΟ	11 = +25 C	V _I = -9V to -13V	-	5	60	IIIV
Load Population (Note1)	4\/0	T _J = +25°C, l _O =	= 5mA to 1.5A	-	10	120	mV
Load Regulation (Note1)	ΔVο	T _J = +25°C, l _O =	= 250mA to 750mA	-	3	60	IIIV
Quiescent Current	IQ	TJ = +25°C		-	3	6	mA
Quiaccent Current Change	A.I.O.	I _O = 5mA to 1A		-	0.05	0.5	m 1
Quiescent Current Change	ΔlQ	V _I = -8V to -25V		-	0.1	1.3	mA
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-0.5	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100h	кHz, Тд =+25°С	-	130	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI =	= 10V	54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI =	= -35V	-	300	-	mA
Peak Current	IPK	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in VO due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7908) (Continued)

(VI = -14V, IQ = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CQ =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	nditions	Min.	Тур.	Max.	Unit
		TJ =+25°C	T _J =+25°C		-8	-8.3	
Output Voltage	Vo	IO = 5mA to 1A, V _I = -10V to -23V		-7.6	-8	-8.4	V
Line Regulation (Note1)	4\/0	T,j = +25°C	$V_I = -10.5V$ to $-25V$	-	10	160	mV
Line Regulation (Note1)	ΔVο	1J = +25 C	V _I = -11V to -17V	-	5	80	
Load Regulation (Note1)	ΔVο	TJ = +25°C, IO =	5mA to 1.5A	-	12	160	mV
Load Regulation (Note I)	ΔνΟ	T _J = +25°C, l _O =	250mA to 750mA	-	4	80	IIIV
Quiescent Current	IQ	TJ = +25°C		-	3	6	mA
Quiescent Current Change	ΔlQ	$I_O = 5mA$ to $1A$		-	0.05	0.5	mΛ
Quiescent Current Change		V _I = -10.5V to -25V		-	0.1	1	mA
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-0.6	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100k	Hz, T _A = +25°C	-	175	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI =	10V	54	60	-	dB
Dropout Voltage	VD	T _J =+25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ =+25°C, VI =	-35V	-	300	-	mA
Peak Current	IPK	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7909) (Continued)

(VI = -15V, IQ = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CQ =1 μ F, unless otherwise specified.)

Parameter	Symbol	Con	ditions	Min.	Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-9.0	-9.3	
Output Voltage	Vo	$IO = 5mA \text{ to } 1A, PO \le 15W$ VI = -1.5V to -23V		-8.6	-9.0	-9.4	V
Line Regulation (Note1)	ΔVΩ	TJ =+25°C	V _I = -11.5V to -26V	-	10	180	mV
Line Regulation (Note 1)	ΔνΟ	1J= + 25 C	V _I = -12V to -18V	-	5	90	IIIV
Load Regulation (Note1)	ΔVο	TJ =+25°C, IO =	5mA to 1.5A	-	12	180	mV
Load Regulation (Note1)	ΔνΟ	T _J =+25°C, I _O =	T _J =+25°C, I _O = 250mA to 750mA		4	90	IIIV
Quiescent Current	IQ	TJ = +25°C		-	3	6	mA
Quiagont Current Change	ΔlQ	IO = 5mA to 1A		-	0.05	0.5	m ^
Quiescent Current Change		V _I = -11.5V to -26V		-	0.1	1	mA
Temperature Coefficient of V _D	ΔVo/ΔΤ	IO = 5mA		-	-0.6	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100k	Hz, T _A = +25°C	-	175	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI =	10V	54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI =	-35V	-	300	-	mA
Peak Current	IPK	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7910) (Continued)

(VI = -17V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	nditions	Min.	Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-10	-10.4	
Output Voltage	Vo	IO = 5mA to 1A, V _I = -12V to -28	Po ≤ 15W	-9.5	-10	-10.5	V
Line Regulation (Note1)	ΔVο	T _J = +25°C	V _I = -12.5V to -28V	-	12	200	- mV
Line Regulation (Note I)	ΔνΟ	11 = +23 C	V _I = -14V to -20V	-	6	100	
Load Regulation (Note1)	ΔVο	T _J = +25°C, l _O =	5mA to 1.5A	-	12	200	mV
Load Regulation (Note 1)	ΔνΟ	T _J = +25°C, l _O =	250mA to 750mA	-	4	100	IIIV
Quiescent Current	IQ	TJ = +25°C	TJ = +25°C		3	6	mA
Quiggoont Current Change	ΔlQ	$I_O = 5mA$ to 1A		-	0.05	0.5	mΛ
Quiescent Current Change		V _I = -12.5 to -28V		-	0.1	1	mA
Temperature Coefficient of VO	ΔVo/ΔΤ	IO = 5mA		-	-1	-	mV/°C
Output Noise Voltage	VN	10Hz ≤ f ≤ 100kH	Iz, Тд = +25°С	-	280	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI = 10V		54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI =	-35V	-	300	-	mA
Peak Current	IPK	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7912) (Continued)

(VI = -19V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	nditions	Min.	Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-12	-12.5	
Output Voltage	Vo	IO = 5mA to 1A, IO = -15.5V to -2700	-	-11.4	-12	-12.6	V
Line Regulation (Note1)	۸\/۵	T 25°C	VI = -14.5V to -30V	-	12	240	mV
Line Regulation (Note1)	ΔVO	T _J = +25°C	V _I = -16V to -22V	-	6	120	IIIV
Load Regulation (Note1)	ΔVο	T _J = +25°C, l _O =	5mA to 1.5A	-	12	240	mV
Load Regulation (Note 1)	ΔνΟ	T _J =+25°C, l _O = 2	250mA to 750mA	-	4	120	IIIV
Quiescent Current	lQ	TJ =+25°C		-	3	6	mA
Quiescent Current Change	ΔlQ	$I_O = 5mA$ to 1A		-	0.05	0.5	mΛ
Quiescent Current Change		V _I = -14.5V to -30V		-	0.1	1	mA
Temperature Coefficient of VD	ΔVo/ΔΤ	IO = 5mA		-	-0.8	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100kl	Hz, T _A =+25°C	-	200	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI = 10V		54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI =	-35V	-	300	-	mA
Peak Current	IPK	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in VO due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7915) (Continued)

(VI = -23V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	Conditions		Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-15	-15.6	
Output Voltage	Vo	IO = 5mA to 1A, VI = -18V to -30V		-14.25	-15	-15.75	V
Line Regulation (Note1)	ΔVΩ	T 25°C	V _I = -17.5V to -30V	-	12	300	mV
Line Regulation (Note1)	ΔνΟ	T _J = +25°C	V _I = -20V to -26V	-	6	150	IIIV
Load Population (Note1)	ΔVο	T _J = +25°C, l _O =	5mA to 1.5A	-	12	300	mV
Load Regulation (Note1)	ΔνΟ	T _J =+25°C, I _O =	T _J =+25°C, I _O = 250mA to 750mA		4	150	IIIV
Quiescent Current	lQ	TJ =+25°C	TJ =+25°C		3	6	mA
Quiaccant Current Change	ΔlQ	I _O = 5mA to 1A		-	0.05	0.5	m ^
Quiescent Current Change		V _I = -17.5V to -30V		-	0.1	1	mA
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-0.9	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100k	Hz, T _A = +25°C	-	250	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI =	10V	54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI =	: -35V	-	300	-	mA
Peak Current	lpk	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7918) (Continued)

(VI = -27V, IQ = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CQ =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	nditions	Min.	Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-18	-18.7	
Output Voltage	Vo	IO = 5mA to 1A V _I = -22.5V to -		-17.1	-18	-18.9	V
Line Regulation (Note1)	ΔVο	T,j = +25°C	V _I = -21V to -33V	-	15	360	mV
Line Regulation (Note I)	ΔνΟ	1J = +23 C	$V_{I} = -24V \text{ to } -30V$	-	8	180	1111
Load Regulation (Note1)	ΔVο	T _J = +25°C, l _O	= 5mA to 1.5A	-	15	360	mV
Load Negulation (Note 1)	ΔνΟ	T _J = +25°C, I _O	$T_J = +25^{\circ}C$, $I_O = 250$ mA to 750mA		5	180	1111
Quiescent Current	IQ	TJ = +25°C		-	3	6	mA
Quiaccant Current Change	AIO.	$I_O = 5mA$ to 1A		-	0.05	0.5	mA
Quiescent Current Change	ΔlQ	V _I = -21V to -33V		-	0.1	1	IIIA
Temperature Coefficient of VD	ΔVο/ΔΤ	I _O = 5mA		-	-1	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100	kHz, T _A = +25°C	-	300	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI = 10V		54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI	= -35V	-	300	-	mA
Peak Current	IPK	TJ =+25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in VO due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7924) (Continued)

(VI = -33V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	nditions	Min.	Тур.	Max.	Unit
		$T_J = +25^{\circ}C$		-23	-24	-25	
Output Voltage	Vo	IO = 5mA to 1A, P $V_I = -27V \text{ to } -38V$	² O ≤ 15W	-22.8	-24	-25.2	V
Line Regulation (Note1)	ΔVΩ	ТJ =+25°С	V _I = -27V to -38V	-	15	480	mV
Line Regulation (Note 1)	ΔνΟ	11 = +23 0	V _I = -30V to -36V	-	8	180	IIIV
Load Regulation (Note1)	41/0	TJ = +25°C, IO = \$	5mA to 1.5A	-	15	480	mV
Load Regulation (Note I)	ΔVO	$T_J = +25^{\circ}C$, $I_O = 250$ mA to 750mA	T _J = +25°C, I _O = 250mA to 750mA		5	240	IIIV
Quiescent Current	lQ	TJ = +25°C	TJ = +25°C		3	6	mA
Quiacant Current Change	ΔlQ	I _O = 5mA to 1A		-	0.05	0.5	m ^
Quiescent Current Change		V _I = -27V to -38V		-	0.1	1	mA
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-1	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100kH	Iz, T _A =+25°C	-	400	-	μV
Ripple Rejection	RR	$f = 120Hz, \Delta V_I = 1$	0V	54	60	-	dB
Dropout Voltage	VD	T _J =+25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ =+25°C, VI = -3	35V	-	300	-	mA
Peak Current	IPK	TJ =+25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7905A) (Continued)

(VI = -10V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Con	ditions	Min.	Тур.	Max.	Unit
		T _J = +25°C	$T_J = +25^{\circ}C$		-5.0	-5.1	
Output Voltage	Vo	IO = 5mA to 1A, VI = -7V to -20V	Po ≤ 15W	-4.8	-5.0	-5.2	V
		T _J = +25°C	V _I = -7V to -20V I _O = 1A	-	5	50	
Line Regulation (Note1)	ΔVο	11 = +25 0	V _I = -8V to -12V I _O = 1A	-	2	25	mV
		$V_I = -7.5V \text{ to } -25^{\circ}$	V	-	7	50	
		V _I = -8V to -12V, I _O =1A		-	7	50	
Load Regulation (Note1)	ΔVο	IO = 5mA to 1.5A T _J = +25°C		-	10	100	mV
		TJ =+25°C, lo =	250mA to 750mA	-	3	50	
Quiescent Current	IQ	TJ =+25°C		-	3	6	mA
Quiescent Current Change	Mo	IO = 5mA to 1A		-	0.05	0.5	mA
Quiescent Current Change	ΔlQ	V _I = -8V to -25V		-	0.1	0.8	IIIA
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-0.4	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100kl	Hz, T _A =+25°C	-	40	-	μV
Ripple Rejection	RR	f = 120Hz, ΔVI = 10V		54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ = +25°C, VI =	-35V	-	300	-	mA
Peak Current	IPK	T _J = +25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Electrical Characteristics (KA7912A) (Continued)

(VI = -19V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Cor	nditions	Min.	Тур.	Max.	Unit
		TJ =+25°C	T _J =+25°C		-12	-12.25	
Output Voltage	Vo	IO = 5mA to 1A, $V_I = -15.5V \text{ to } -2$		-11.5	-12	-12.5	V
		T _J = +25°C	V _I = -14.5V to -27V lo = 1A	-	12	120	
Line Regulation (Note1)	ΔVο	1J = 1 23 G	V _I = -16V to -22V Io = 1A	-	6	60	mV
		$V_I = -14.8V \text{ to } -3$	80V	-	12	120	
		V _I = -16V to -22	V, Io = 1A	-	12	120	
Load Regulation (Note1)	ΔVο	TJ =+25°C, IO =	5mA to 1.5A	-	12	150	mV
		T _J =+25°C, l _O =	250mA to 750mA	-	4	75	1110
Quiescent Current	IQ	TJ =+25°C		-	3	6	mA
Quiescent Current Change	Alo	$I_O = 5mA$ to $1A$		-	0.05	0.5	mA
Quiescent Current Change	ΔlQ	V _I = -15V to -30V		-	0.1	1	IIIA
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-0.8	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100k	Hz, TA =+25°C	-	200	-	μV
Ripple Rejection	RR	f = 120Hz, ΔV _I = 10V		54	60	-	dB
Dropout Voltage	VD	T _J =+25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	TJ =+25°C, VI =	-35V	-	300	-	mA
Peak Current	IPK	TJ =+25°C		-	2.2	-	Α

^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

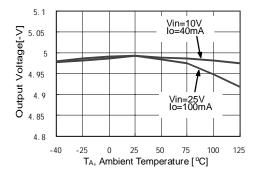
Electrical Characteristics (KA7915A) (Continued)

(VI = -23V, IO = 500mA, 0° C \leq TJ \leq +125 $^{\circ}$ C, CI =2.2 μ F, CO =1 μ F, unless otherwise specified.)

Parameter	Symbol	Conditions		Min.	Тур.	Max.	Unit
	Vo	T _J = +25°C		-14.7	-15	-15.3	V
Output Voltage		IO = 5mA to 1A, PO ≤ 15W VI = -18V to -30V		-14.4	-15	-15.6	
Line Regulation (Note1)	ΔVο	T _J =+25°C	V _I = -17.5V to -30V lo = 1A	-	12	150	mV
			V _I = -20V to -26V lo = 1A	-	6	75	
		V _I = -17.9V to -30V		-	12	150	
		V _I = -20V to -26V, Io = 1A		-	6	150	
Load Regulation (Note1)	ΔVο	$T_J = +25^{\circ}C$, $I_O = 5mA$ to 1.5A		-	12	150	mV
		$T_J = +25^{\circ}C$, $I_O = 250$ mA to 750mA		-	4	75	
Quiescent Current	IQ	TJ =+25°C		-	3	6	mA
Quiescent Current Change	ΔlQ	$I_O = 5mA$ to 1A		-	0.05	0.5	mA
		VI = -18.5V to -30V		-	0.1	1	
Temperature Coefficient of VD	ΔVο/ΔΤ	IO = 5mA		-	-0.9	-	mV/°C
Output Noise Voltage	VN	f = 10Hz to 100kHz, TA =+25°C		-	250	-	μV
Ripple Rejection	RR	f = 120Hz, ΔV _I = 10V		54	60	-	dB
Dropout Voltage	VD	T _J = +25°C, I _O = 1A		-	2	-	V
Short Circuit Current	Isc	T _J =+25°C, V _I = -35V		-	300	-	mA
Peak Current	IPK	T _J =+25°C		-	2.2	-	Α

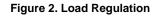
^{1.} Load and line regulation are specified at constant junction temperature. Changes in Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

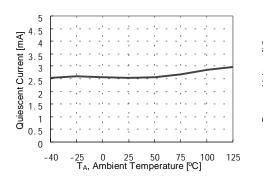
Typical Performance Characteristics



15 13 10=1.5A 11 9 7 7 10=0.75A 10=0.75A 10=0.75A 10=0.75A 10=0.75A 10=0.75A 10=0.75A 10=0.75A

Figure 1. Output Voltage





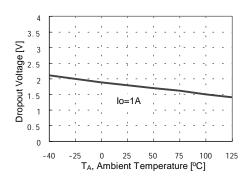


Figure 3. Quiescent Current

Figure 4. Dropout Voltage

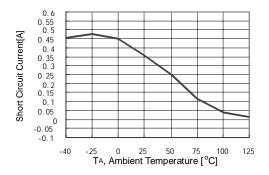


Figure 5. Short Circuit Current

Typical Applications

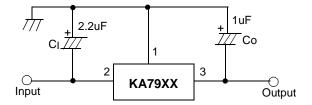


Figure 6. Negative Fixed output regulator

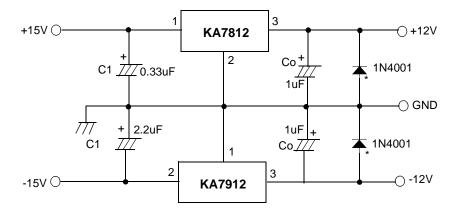


Figure 7. Split power supply (\pm 12V/1A)

Note:

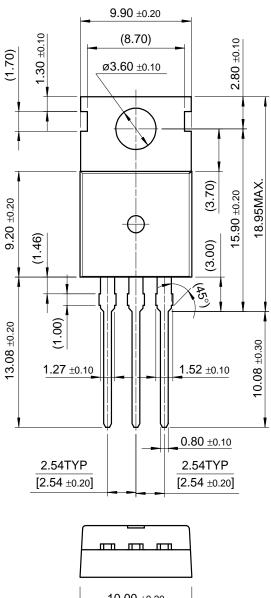
- (1) To specify an output voltage, substitute voltage value for "XX"
- (2) Required for stability. For value given, capacitor must be solid tantalum. If aluminium electronics are used, at least ten times value shown should be selected. C_I is required if regulator is located an appreciable distance from power supply filter.
- (3) To improve transient response. If large capacitors are used, a high current diode from input to output (1N400l or similar) should be introduced to protect the device from momentary input short circuit.

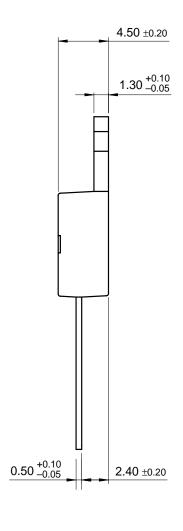
Mechanical Dimensions

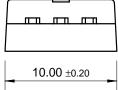
Package

Dimensions in millimeters

TO-220







Ordering Information

Product Number	Output Voltage Tolerance	Package	Operating Temperature		
KA7905		TO-220			
KA7906					
KA7908					
KA7909					
KA7910	±4%				
KA7912			0 ~ +125°C		
KA7915			0~+125°C		
KA7918					
KA7924					
KA7905A					
KA7912A	±2%				
KA7915A					

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