

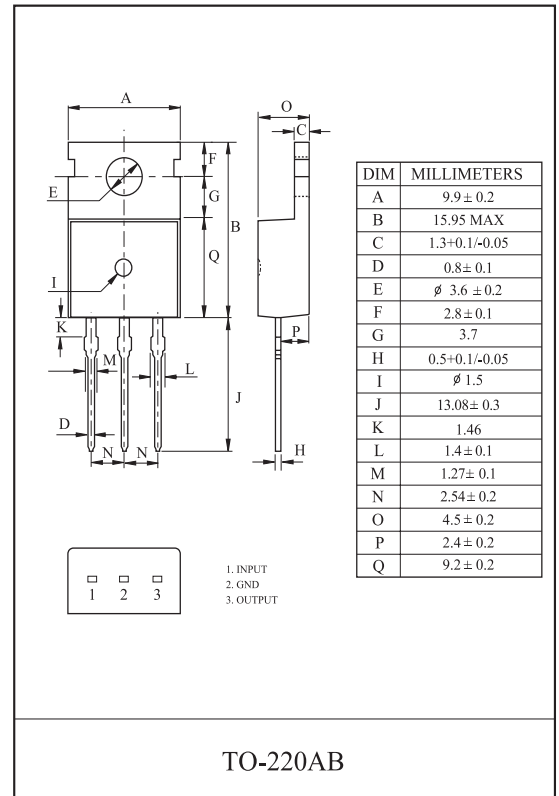
## THREE TERMINAL POSITIVE VOLTAGE REGULATORS 5V, 6V, 7V, 8V, 9V, 10V, 12V, 15V, 18V, 20V, 24V

### FEATURES

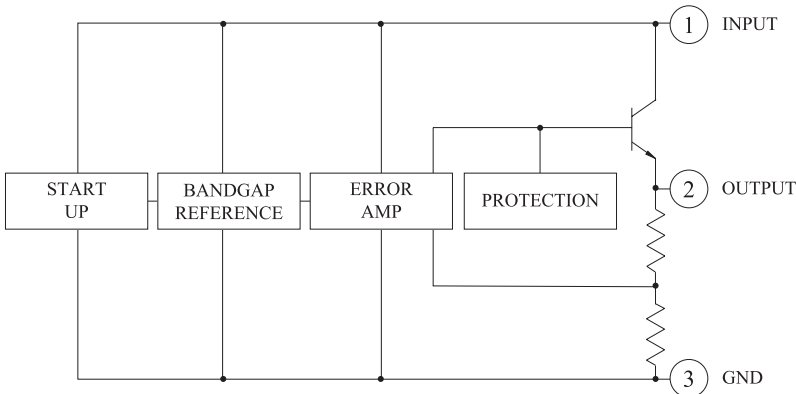
- Internal Thermal Overload Protection.
- Internal Short Circuit Current Limiting.
- Output Current up to 1.5A.
- Package is TO-220AB

### LINE-UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT
KIA7805AP	5	V
KIA7806AP	6	
KIA7807AP	7	
KIA7808AP	8	
KIA7809AP	9	
KIA7810AP	10	
KIA7812AP	12	
KIA7815AP	15	
KIA7818AP	18	
KIA7820AP	20	
KIA7824AP	24	



### BLOCK DIAGRAM



### MAXIMUM RATINGS (Ta=25 )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	KIA7805~ KIA7815	$V_{IN}$	32	V
	KIA7818~ KIA7824		40	
Power Dissipation-1 (No Heatsink)		$P_{D1}$	1.9	W
Power Dissipation-2 (Infinite Heatsink)		$P_{D2}$	30	
Operating Junction Temperature		$T_j$	-40 150	
Storage Temperature		$T_{stg}$	-55 150	
Maximum Junction Temperature		$T_{j(max)}$	150	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7805AP (Unless otherwise specified,  $V_{IN}=10V$ ,  $I_{OUT}=500mA$ ,  $T_j=25$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$	4.8	5.0	5.2	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	7.0V $V_{IN}$ 25V	-	3	100	mV
				8.0V $V_{IN}$ 12V	-	1	50	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	15	100	mV
				250mA $I_{OUT}$ 750mA	-	5	50	
Output Voltage	$V_{OUT}$	Fig. 1	7.0V $V_{IN}$ 20V 5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	4.75	5.0	5.25	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.2	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	7.0V $V_{IN}$ 25V	-	-	1.3	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz	-	42	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 8.0V $V_{IN}$ 18V	62	73	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$V_{IN}=30V$ , $T_j=25$	-	50	-	mA	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$	-	-0.6	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7806AP (Unless otherwise specified,  $V_{IN}=11V$ ,  $I_{OUT}=500mA$ ,  $T_j=25$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$	5.75	6.0	6.25	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	8.0V $V_{IN}$ 25V	-	4	120	mV
				9V $V_{IN}$ 13V	-	2	60	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	15	120	mV
				250mA $I_{OUT}$ 750mA	-	5	60	
Output Voltage	$V_{OUT}$	Fig. 1	8V $V_{IN}$ 21V 5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	5.7	6.0	6.3	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.3	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	8V $V_{IN}$ 25V	-	-	1.3	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz	-	45	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 9V $V_{IN}$ 19V	59	75	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$V_{IN}=30V$ , $T_j=25$	-	50	-	mA	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$	-	-0.7	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7807AP (Unless otherwise specified,  $V_{IN}=12V$ ,  $I_{OUT}=500mA$ ,  $0 < T_j < 125$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	6.72	7.0	7.28	V	
Input Regulation	Reg line	Fig. 1	$T_j=25$	9V $V_{IN}$ 25V	-	5	140	mV
				10V $V_{IN}$ 14V	-	2	70	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.4A	-	15	140	mV
				250mA $I_{OUT}$ 750mA	-	5	70	
Output Voltage	$V_{OUT}$	Fig. 1	9V $V_{IN}$ 22V	6.65	-	7.35	V	
Quiescent Current	$I_B$	Fig. 1	5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	-	4.3	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	-	1.3	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	9V $V_{IN}$ 25V	-	60	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$T_a=25$ , 10Hz $f$ 100kHz	59	75	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=50mA$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$f=120Hz$ , 10V $V_{IN}$ 20V,	-	1.3	-	A	
Average Temperature	$TC_{VO}$	Fig. 1	$I_{OUT}=50mA$ , $T_j=25$	-	-0.8	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7808AP (Unless otherwise specified,  $V_{IN}=14V$ ,  $I_{OUT}=500mA$ ,  $T_j=25$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$	7.7	8.0	8.3	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	10.5V $V_{IN}$ 25V	-	6	160	mV
				11V $V_{IN}$ 17V	-	2	80	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	12	160	mV
				250mA $I_{OUT}$ 750mA	-	4	80	
Output Voltage	$V_{OUT}$	Fig. 1	10.5V $V_{IN}$ 23V 5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	7.6	8.0	8.4	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.3	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	10.5V $V_{IN}$ 25V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz	-	52	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 11.5V $V_{IN}$ 21.5V	56	73	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$V_{IN}=30V$ , $T_j=25$	-	50	-	mA	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$	-	-1.0	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7809AP (Unless otherwise specified,  $V_{IN}=15V$ ,  $I_{OUT}=500mA$ ,  $0 < T_j < 125$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	8.64	9.0	9.36	V	
Input Regulation	Reg line	Fig. 1	$T_j=25$	11.5V $V_{IN}$ 26V	-	7	180	mV
				13V $V_{IN}$ 19V	-	2.5	90	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.4A	-	12	180	mV
				250mA $I_{OUT}$ 750mA	-	4	90	
Output Voltage	$V_{OUT}$	Fig. 1	11.5V $V_{IN}$ 26V 5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	8.55	-	9.45	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.3	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	11.5V $V_{IN}$ 26V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz $I_{OUT}=50mA$	-	75	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 12.5V $V_{IN}$ 22.5V, $I_{OUT}=50mA$ , $T_j=25$	56	72	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$T_j=25$	-	1.0	-	A	
Average Temperature	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$ , $0 < T_j < 125$	-	-1.1	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7810AP (Unless otherwise specified,  $V_{IN}=16V$ ,  $I_{OUT}=500mA$ ,  $0 \leq T_j \leq 125$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	9.6	10.0	10.4	V	
Input Regulation	Reg line	Fig. 1	$T_j=25$	12.5V $V_{IN}$ 27V	-	8	200	mV
				14V $V_{IN}$ 20V	-	2.5	100	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.4A	-	12	200	mV
				250mA $I_{OUT}$ 750mA	-	4	100	
Output Voltage	$V_{OUT}$	Fig. 1	12.5V $V_{IN}$ 25V 5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	9.5	-	10.5	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.3	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	12.5V $V_{IN}$ 27V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz $I_{OUT}=50mA$	-	80	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 13.5V $V_{IN}$ 23.5V, $I_{OUT}=50mA$ , $T_j=25$	55	72	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$T_j=25$	-	0.9	-	A	
Average Temperature	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$ , $0 \leq T_j \leq 125$	-	-1.3	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7812AP (Unless otherwise specified,  $V_{IN}=19V$ ,  $I_{OUT}=500mA$ ,  $T_j=25$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$	11.5	12.0	12.5	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	14.5V $V_{IN}$ 30V	-	10	240	mV
				16V $V_{IN}$ 22V	-	3	120	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	12	240	mV
				250mA $I_{OUT}$ 750mA	-	4	120	
Output Voltage	$V_{OUT}$	Fig. 1	14.5V $V_{IN}$ 27V 5.0mA $I_{OUT}$ 1.0A, $P_o$ 15W	11.4	12.0	12.6	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.3	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	14.5V $V_{IN}$ 30V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz	-	76	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 15V $V_{IN}$ 25V	55	71	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$V_{IN}=30V$ , $T_j=25$	-	50	-	mA	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$	-	-1.6	-	mV/	



# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7815AP (Unless otherwise specified,  $V_{IN}=23V$ ,  $I_{OUT}=500mA$ ,  $0 \leq T_j \leq 125$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	14.4	15.0	15.6	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	17.5V $V_{IN}$ 30V	-	11	300	mV
				20V $V_{IN}$ 26V	-	3	150	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	12	300	mV
				250mA $I_{OUT}$ 750mA	-	4	150	
Output Voltage	$V_{OUT}$	Fig. 1	17.5V $V_{IN}$ 30V 5.0mA $I_{OUT}$ 1.5A, $P_o$ 15W	14.25	-	15.75	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.4	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	17.5V $V_{IN}$ 30V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz $I_{OUT}=50mA$	-	110	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 18.5V $V_{IN}$ 28.5V, $I_{OUT}=50mA$ , $T_j=25$	54	70	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$T_j=25$	-	0.5	-	A	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$ , $0 \leq T_j \leq 125$	-	-2.0	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7818AP (Unless otherwise specified,  $V_{IN}=27V$ ,  $I_{OUT}=500mA$ ,  $0 \leq T_j \leq 125$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	17.3	18.0	18.7	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	21V $V_{IN}$ 33V	-	13	360	mV
				24V $V_{IN}$ 30V	-	4	180	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	12	360	mV
				250mA $I_{OUT}$ 750mA	-	4	180	
Output Voltage	$V_{OUT}$	Fig. 1	21V $V_{IN}$ 33V 5.0mA $I_{OUT}$ 1.5A, $P_o$ 15W	17.1	-	18.9	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.5	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	21V $V_{IN}$ 33V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz $I_{OUT}=50mA$	-	125	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 22V $V_{IN}$ 32V, $I_{OUT}=50mA$ , $T_j=25$	52	68	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$T_j=25$	-	0.4	-	A	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$ , $0 \leq T_j \leq 125$	-	-2.5	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7820AP (Unless otherwise specified,  $V_{IN}=29V$ ,  $I_{OUT}=500mA$ ,  $0 \leq T_j \leq 125$ )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	19.2	20.0	20.8	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	$23V \leq V_{IN} \leq 35V$	-	15	400	mV
				$26V \leq V_{IN} \leq 32V$	-	5	200	
Load Regulation	Reg load	Fig. 1	$T_j=25$	$5mA \leq I_{OUT} \leq 1.5A$	-	12	400	mV
				$250mA \leq I_{OUT} \leq 750mA$	-	4	200	
Output Voltage	$V_{OUT}$	Fig. 1	$23V \leq V_{IN} \leq 35V$ $5.0mA \leq I_{OUT} \leq 1.5A$ , $P_o \leq 15W$	19.0	-	21.0	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.6	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	$23V \leq V_{IN} \leq 35V$	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , $10Hz \leq f \leq 100kHz$ $I_{OUT}=50mA$	-	135	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , $24V \leq V_{IN} \leq 34V$ , $I_{OUT}=50mA$ , $T_j=25$	50	66	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$T_j=25$	-	0.4	-	A	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$ , $0 \leq T_j \leq 125$	-	-3.0	-	mV/	

# KIA7805AP~KIA7824AP

## ELECTRICAL CHARACTERISTICS

KIA7824AP (Unless otherwise specified,  $V_{IN}=33V$ ,  $I_{OUT}=500mA$ ,  $0 \leq T_j \leq 125$  )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig. 1	$T_j=25$ , $I_{OUT}=100mA$	23.0	24.0	25.0	V	
Line Regulation	Reg line	Fig. 1	$T_j=25$	27V $V_{IN}$ 38V	-	18	480	mV
				30V $V_{IN}$ 36V	-	6	240	
Load Regulation	Reg load	Fig. 1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	12	480	mV
				250mA $I_{OUT}$ 750mA	-	4	240	
Output Voltage	$V_{OUT}$	Fig. 1	27V $V_{IN}$ 38V 5.0mA $I_{OUT}$ 1.5A, $P_o$ 15W	22.8	-	25.2	V	
Quiescent Current	$I_B$	Fig. 1	$T_j=25$ , $I_{OUT}=5mA$	-	4.6	8.0	mA	
Quiescent Current Change	$I_B$	Fig. 1	27V $V_{IN}$ 38V	-	-	1.0	mA	
Output Noise Voltage	$V_{NO}$	Fig. 2	$T_a=25$ , 10Hz $f$ 100kHz $I_{OUT}=50mA$	-	150	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig. 3	$f=120Hz$ , 28V $V_{IN}$ 38V, $I_{OUT}=50mA$ , $T_j=25$	50	66	-	dB	
Dropout Voltage	$V_D$	Fig. 1	$I_{OUT}=1.0A$ , $T_j=25$	-	2.0	-	V	
Short Circuit Current Limit	$I_{SC}$	Fig. 1	$T_j=25$	-	0.3	-	A	
Average Temperature Coefficient of Output Voltage	$TC_{VO}$	Fig. 1	$I_{OUT}=5mA$ , $0 \leq T_j \leq 125$	-	-3.5	-	mV/	

# KIA7805AP~KIA7824AP

## TEST CIRCUIT

Fig. 1 Standard Test Circuit & Application Circuit

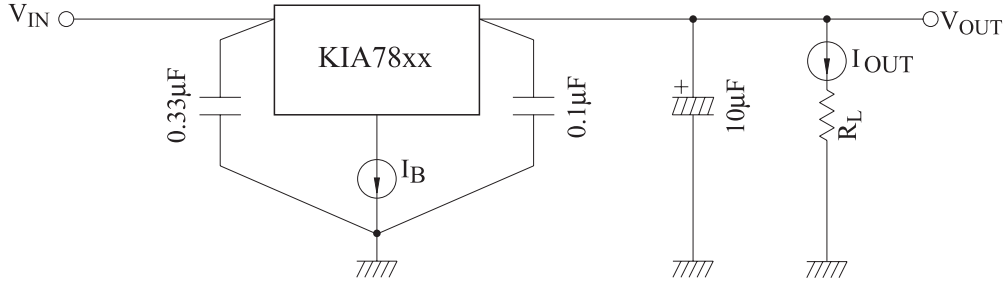


Fig. 2  $V_{NO}$  Test Circuit

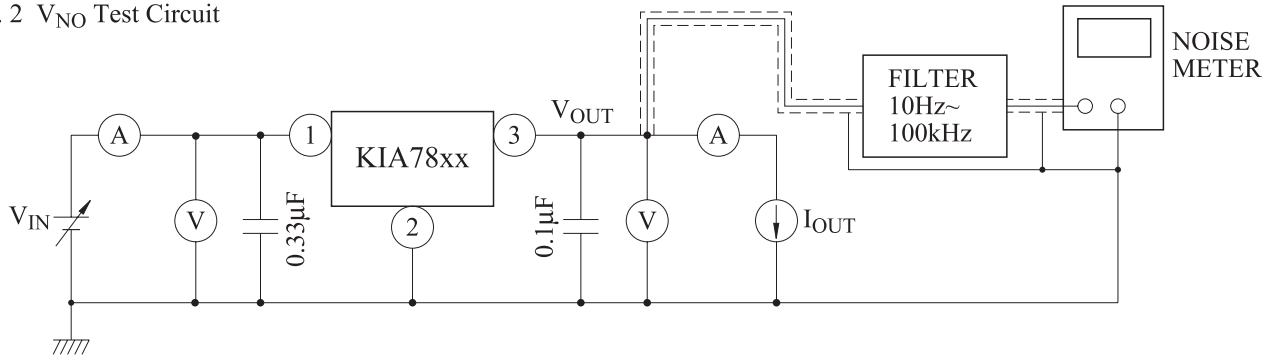
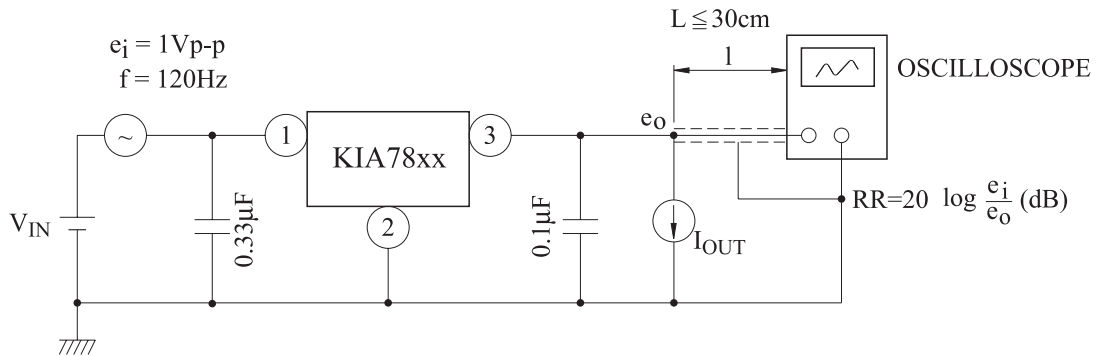


Fig. 3 Ripple Rejection Test Circuit

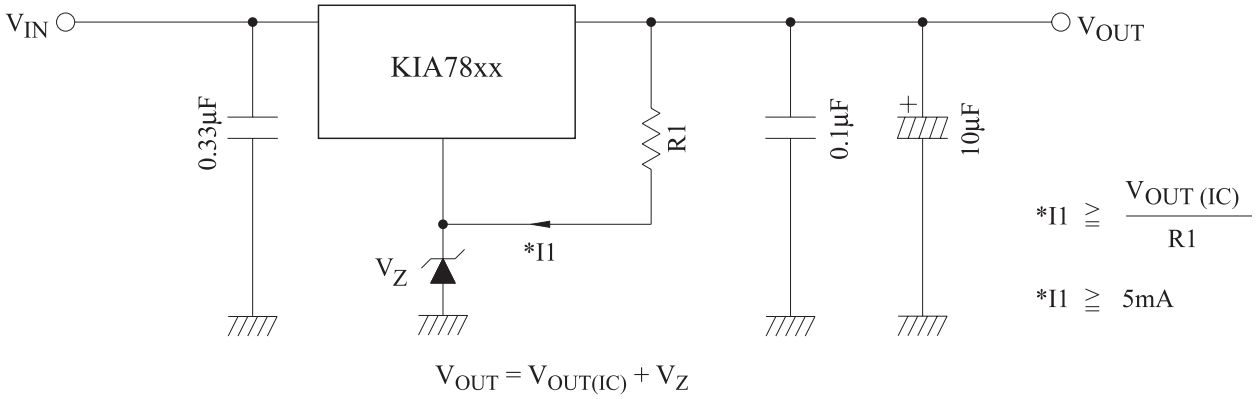


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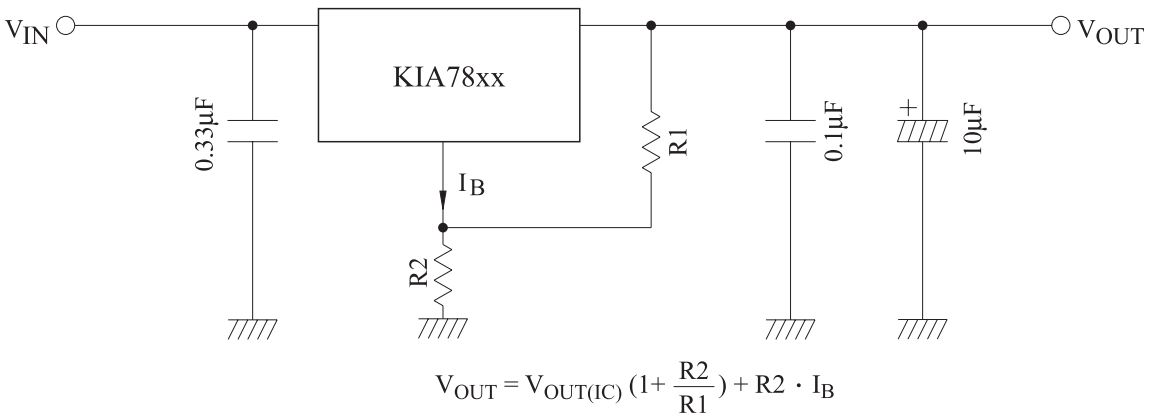
## APPLICATION CIRCUIT

### (1) VOLTAGE BOOST REGULATOR

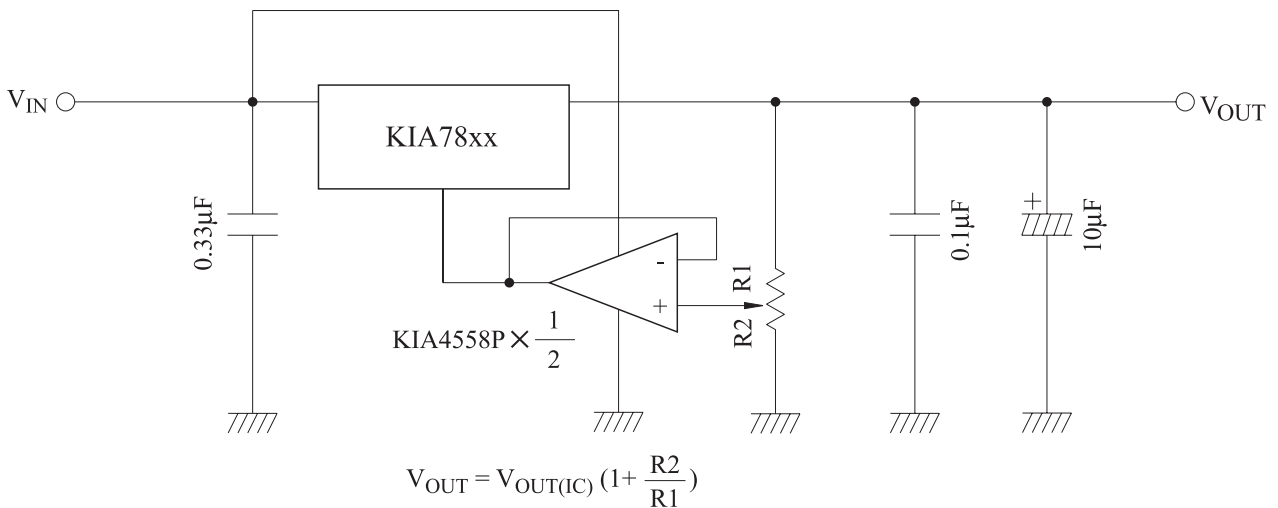
#### (a) Voltage boost by use of zener diode



#### (b) Voltage boost by use of resistor

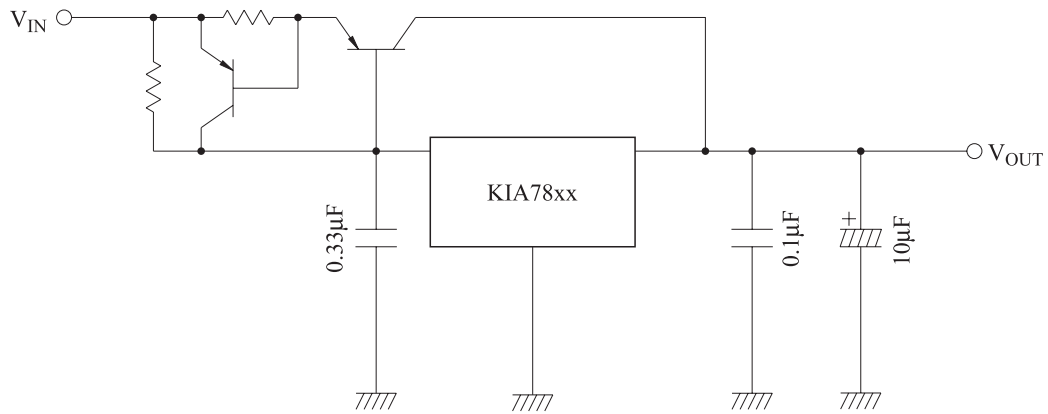


#### (c) Adjustable output regulator



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## (2) CURRENT BOOST REGULATOR



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Fig. 4  $I_B - T_j$

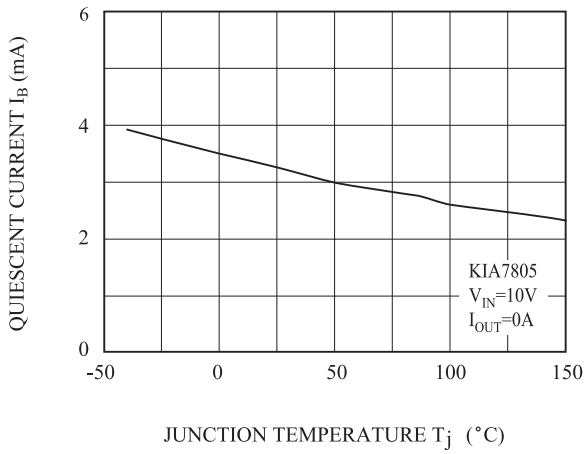


Fig. 5  $V_{OUT} - T_j$

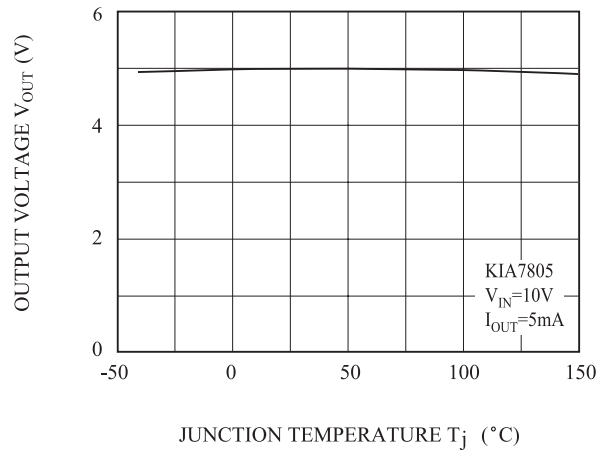


Fig. 6  $V_D - T_j$

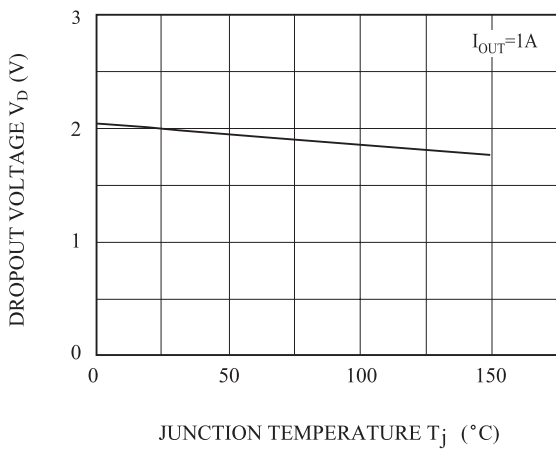
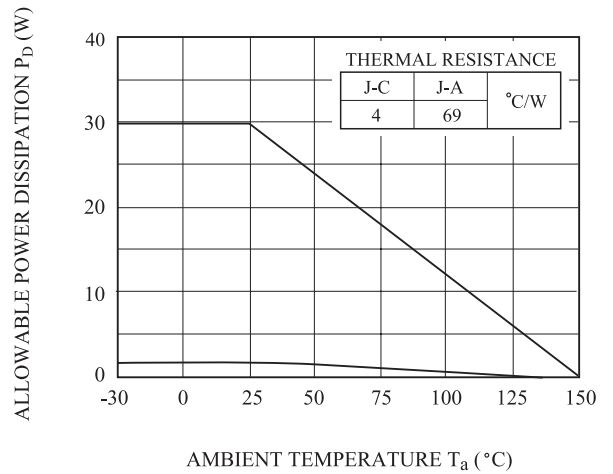


Fig. 7  $P_D - T_a$





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