

### 1A THREE TERMINAL NEGATIVE VOLTAGE REGULATORS -5V, -6V, -7V, -8V, -9V, -10V, -12V, -15V, -18V, -20V, -24V.

#### FEATURES

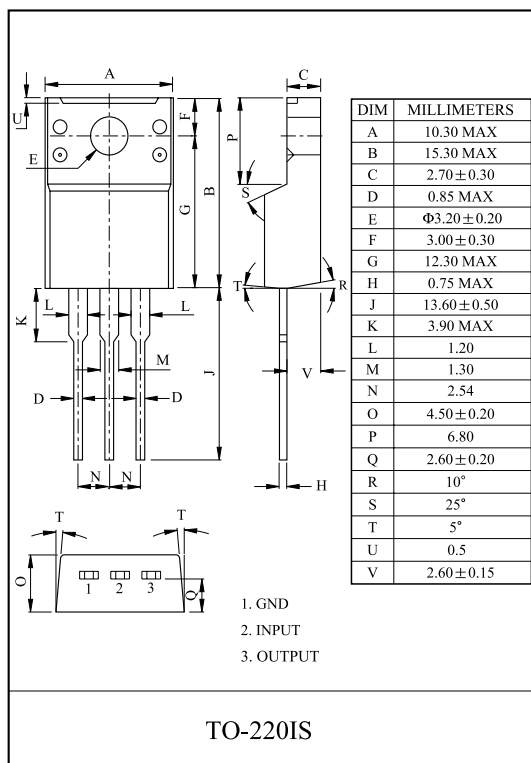
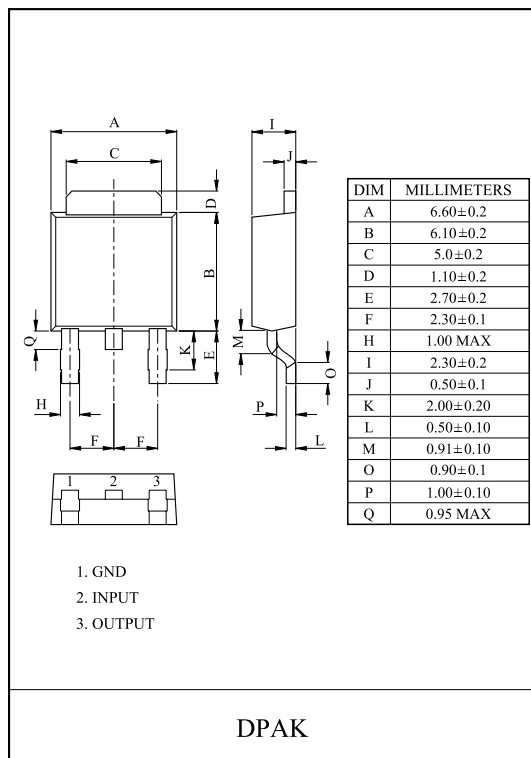
- Suitable for C-MOS, TTL, and the other digital IC power supply.
- Internal thermal overload protecting.
- Internal short circuit current limiting.
- Output current in excess of 1.0A.

#### LINE-UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT
KIA7905F/PI	-5	F : DPAK PI : TO-220IS
KIA7906F/PI	-6	
KIA7907F/PI	-7	
KIA7908F/PI	-8	
KIA7909F/PI	-9	
KIA7910F/PI	-10	
KIA7912F/PI	-12	
KIA7915F/PI	-15	
KIA7918F/PI	-18	
KIA7920F/PI	-20	
KIA7924F/PI	-24	

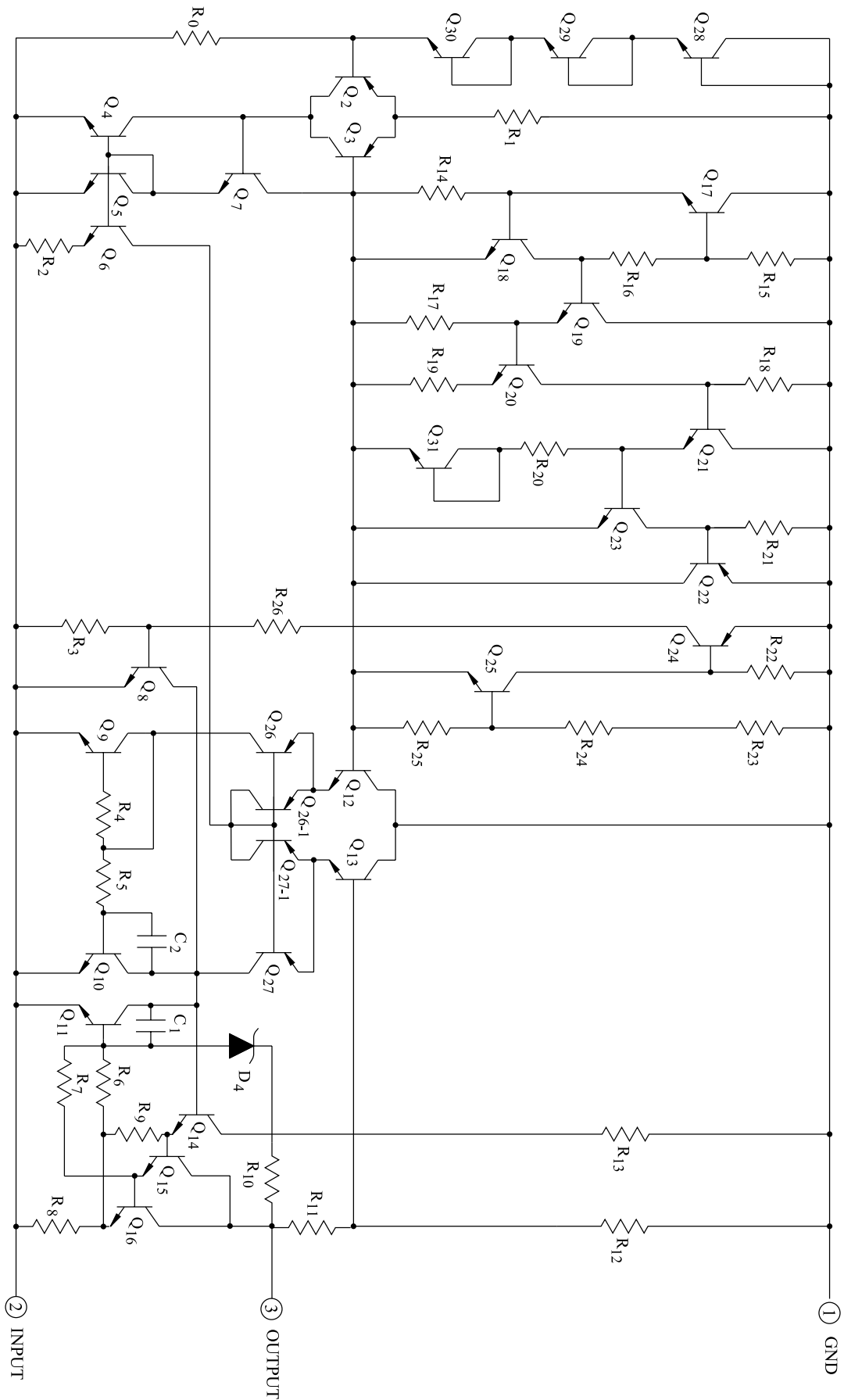
#### MAXIMUM RATINGS (Ta=25 )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	KIA7905	V <sub>IN</sub>	-35	V
	KIA7915		-40	
	KIA7918		-40	
	KIA7924		-40	
Power Dissipation-1 (No Heatsink)	F	P <sub>D1</sub>	1.3	W
	PI		2.0	
Power Dissipation-2 (Infinite Heatsink)	F	P <sub>D2</sub>	12.0	W
	PI		20.8	
Operating Junction Temperature	T <sub>j</sub>	-30 150		
Operating Temperature	T <sub>opr</sub>	-30 75		
Storage Temperature	T <sub>stg</sub>	-55 150		



# KIA7905F/PI~KIA7924F/PI

## EQUIVALENT CIRCUIT



# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7905F/PI

(Unless otherwise specified,  $V_{IN}=-10V$ ,  $I_{OUT}=500mA$ ,  $\theta_{Tj} = 125$ ,  $C_{IN}=2.2 \mu F$ ,  $C_{OUT}=1 \mu F$ )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage	$V_{OUT}$	Fig.1	$T_j=25$	-5.2	-5.0	-4.8	V	
Input Regulation	Reg line	Fig.1	$T_j=25$	-12V $V_{IN}$ -8V	-	5	50	mV
				-25V $V_{IN}$ -7V	-	10	100	
Load Regulation	Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	10	100	mV
				250mA $I_{OUT}$ 750mA	-	3	50	
Output Voltage	$V_{OUT}$	Fig.1	-20V $V_{IN}$ -7V 5mA $I_{OUT}$ 1.0A	-5.25	-5.0	-4.75	V	
Quiescent Current	$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change	$I_{BI}$	Fig.1	$T_j=25$	-25V $V_{IN}$ -8V	-	0.1	1.3	mA
	$I_{BO}$			5mA $I_{OUT}$ 1.0A	-	0.05	0.5	
Output Noise Voltage	$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	100	-	$\mu V_{rms}$	
Ripple Rejection Ratio	RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit	$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage	$T_{CVO}$	Fig.1	$I_{OUT}=5.0mA$	-	-0.4	-	mV/	
Dropout Voltage	$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7906F/PI

(Unless otherwise specified,  $V_{IN}=-11V$ ,  $I_{OUT}=500mA$ ,  $0 < T_j < 125$ ,  $C_{IN}=2.2 \mu F$ ,  $C_{OUT}=1 \mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-6.25	-6.0	-5.75	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-13V $V_{IN}$ -9V	-	5	60	mV
					-25V $V_{IN}$ -8V	-	10	120	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	10	120	mV
					250mA $I_{OUT}$ 750mA	-	3	60	
Output Voltage		$V_{OUT}$	Fig.1	-21V $V_{IN}$ -9V 5mA $I_{OUT}$ 1.0A	-6.3	-6.0	-5.7	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-25V $V_{IN}$ -9V	-	-	1.3	mA
		Load			5mA $I_{OUT}$ 1.0A	-	-	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	130	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-0.5	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7907F/PI

(Unless otherwise specified,  $V_{IN}=-12V$ ,  $I_{OUT}=500mA$ ,  $0 < T_j < 125$ ,  $C_{IN}=2.2 \mu F$ ,  $C_{OUT}=1 \mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-7.28	-7.0	-6.72	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-15V $V_{IN}$ -10V	-	10	70	mV
					-25V $V_{IN}$ -9V	-	45	140	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	20	140	mV
					250mA $I_{OUT}$ 750mA	-	7	70	
Output Voltage		$V_{OUT}$	Fig.1	-22V $V_{IN}$ -9V 5mA $I_{OUT}$ 1.0A	-7.35	-	-6.65	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	4.3	8.0	mA	
Quiescent Current Change		Line	Fig.1	-25V $V_{IN}$ -9V 5mA $I_{OUT}$ 1.0A	-	-	1.0	mA	
		Load							$I_{BO}$
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	49	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	60	67	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	0.9	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7908F/PI

(Unless otherwise specified,  $V_{IN}=-14V$ ,  $I_{OUT}=500mA$ ,  $0 < T_j < 125$ ,  $C_{IN}=2.2\mu F$ ,  $C_{OUT}=1\mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-8.3	-8.0	-7.7	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-17V $V_{IN}$ -11V	-	5	80	mV
					-25V $V_{IN}$ -10.5V	-	10	100	
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	-23V $V_{IN}$ -11.5V 5mA $I_{OUT}$ 1.0A	-8.4	-8.0	-7.6	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-25V $V_{IN}$ -11.5V	-	0.1	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	0.05	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	175	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-0.6	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7909F/PI

(Unless otherwise specified,  $V_{IN}=-15V$ ,  $I_{OUT}=500mA$ ,  $\theta = 125$ ,  $C_{IN}=2.2\mu F$ ,  $C_{OUT}=1\mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-9.3	-9.0	-8.7	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-19V $V_{IN}$ -13V	-	5	90	mV
					-26V $V_{IN}$ -11.5V	-	10	100	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	10	150	mV
					250mA $I_{OUT}$ 750mA	-	5	120	
Output Voltage		$V_{OUT}$	Fig.1	-24V $V_{IN}$ -11.5V 5mA $I_{OUT}$ 1.0A	-9.4	-9.0	-8.6	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-26.5V $V_{IN}$ -13V	-	0.1	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	0.05	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	180	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-0.7	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7910F/PI

(Unless otherwise specified,  $V_{IN}=-16V$ ,  $I_{OUT}=500mA$ ,  $\theta_{Tj} = 125$ ,  $C_{IN}=2.2\mu F$ ,  $C_{OUT}=1\mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-10.4	-10	-9.6	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-20V $V_{IN}$ -14V	-	5	100	mV
					-27V $V_{IN}$ -12.5V	-	10	110	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	10	180	mV
					250mA $I_{OUT}$ 750mA	-	6	120	
Output Voltage		$V_{OUT}$	Fig.1	-25V $V_{IN}$ -12.5V 5mA $I_{OUT}$ 1.0A	-10.5	-10	-9.5	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-27.5V $V_{IN}$ -14V	-	0.1	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	0.05	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	190	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-0.7	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	



# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7912F/PI

(Unless otherwise specified,  $V_{IN}=-18V$ ,  $I_{OUT}=500mA$ ,  $\theta = 125$ ,  $C_{IN}=2.2\mu F$ ,  $C_{OUT}=1\mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-12.5	-12	-11.5	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-22V $V_{IN}$ -16V	-	6	120	mV
					-30V $V_{IN}$ -14.5V	-	12	240	
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	-27V $V_{IN}$ -15.5V 5mA $I_{OUT}$ 1.0A	-12.6	-12	-11.4	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-30V $V_{IN}$ -15V	-	0.1	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	0.05	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	200	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-0.8	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7915F/PI

(Unless otherwise specified,  $V_{IN}=-23V$ ,  $I_{OUT}=500mA$ ,  $\theta_{Tj} = 125$ ,  $C_{IN}=2.2 \mu F$ ,  $C_{OUT}=1 \mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-15.6	-15	-14.4	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-26V $V_{IN}$ -20V	-	6	150	mV
					-30V $V_{IN}$ -17.5V	-	12	300	
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	-30V $V_{IN}$ -18V 5mA $I_{OUT}$ 1.0A	-15.75	-15	-14.25	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-30V $V_{IN}$ -17.5V	-	0.1	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	0.05	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	250	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-0.9	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7918F/PI

(Unless otherwise specified,  $V_{IN}=-27V$ ,  $I_{OUT}=500mA$ ,  $\theta_{Tj} = 125$ ,  $C_{IN}=2.2\mu F$ ,  $C_{OUT}=1\mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-18.7	-18	-17.3	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-30V $V_{IN}$ -24V	-	8	180	mV
					-33V $V_{IN}$ -21V	-	15	360	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	15	360	mV
					250mA $I_{OUT}$ 750mA	-	5	180	
Output Voltage		$V_{OUT}$	Fig.1	-33V $V_{IN}$ -22.5V 5mA $I_{OUT}$ 1.0A	-18.85	-18	-17.15	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-33V $V_{IN}$ -22V	-	-	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	-	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	300	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-1.0	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

### KIA7920F/PI

(Unless otherwise specified,  $V_{IN}=-30V$ ,  $I_{OUT}=500mA$ ,  $0 < T_j < 125$ ,  $C_{IN}=2.2 \mu F$ ,  $C_{OUT}=1 \mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-20.8	-20	-19.2	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-32V $V_{IN}$ -26V	-	10	180	mV
					-35V $V_{IN}$ -24V	-	18	360	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	18	360	mV
					250mA $I_{OUT}$ 750mA	-	10	180	
Output Voltage		$V_{OUT}$	Fig.1	-35V $V_{IN}$ -24 5mA $I_{OUT}$ 1.0A	-21.0	-20	-19.0	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	-36.5V $V_{IN}$ -25V	-	-	1.0	mA	
		Load							5mA $I_{OUT}$ 1.0A
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	350	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-1.0	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_j=25$ , $I_{OUT}=1A$	-	2.0	-	V	

# KIA7905F/PI~KIA7924F/PI

## ELECTRICAL CHARACTERISTICS

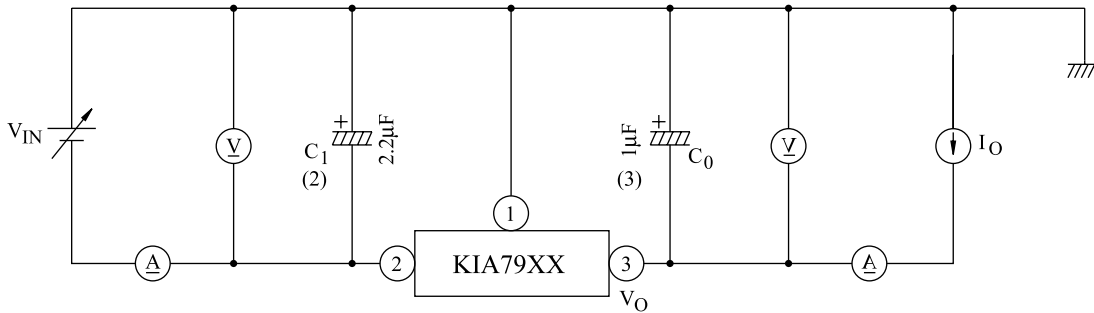
### KIA7924F/PI

(Unless otherwise specified,  $V_{IN}=-33V$ ,  $I_{OUT}=500mA$ ,  $\theta_{Tj} = 125$ ,  $C_{IN}=0.33 \mu F$ ,  $C_{OUT}=0.1 \mu F$ )

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Voltage		$V_{OUT}$	Fig.1	$T_j=25$	-25	-24	-23	V	
Input Regulation		Reg line	Fig.1	$T_j=25$	-36V $V_{IN}$ -30V	-	8	240	mV
					-38V $V_{IN}$ -27V	-	15	480	
Load Regulation		Reg load	Fig.1	$T_j=25$	5mA $I_{OUT}$ 1.5A	-	15	480	mV
					250mA $I_{OUT}$ 750mA	-	5	240	
Output Voltage		$V_{OUT}$	Fig.1	-38V $V_{IN}$ -27V 5mA $I_{OUT}$ 1.0A	-25.2	-24	-22.5	V	
Quiescent Current		$I_B$	Fig.1	$T_j=25$	-	3	6	mA	
Quiescent Current Change		Line	Fig.1	$T_j=25$	-38V $V_{IN}$ -27V	-	-	1.0	mA
		Load			5mA $I_{OUT}$ 1.0A	-	-	0.5	
Output Noise Voltage		$V_{NO}$	Fig.2	$T_a=25$ , 10Hz $f$ 100kHz	-	400	-	$\mu V_{rms}$	
Ripple Rejection Ratio		RR	Fig.3	$f=120Hz$ , $I_{OUT}=20mA$ ,	54	60	-	dB	
Short Circuit Current Limit		$I_{SC}$	Fig.1	$T_j=25$	-	1.9	-	A	
Average Temperature Coefficient of Output Voltage		$T_{CVO}$	Fig.1	$I_{OUT}=5mA$	-	-1.0	-	mV/	
Dropout Voltage		$V_D$	Fig.1	$T_a=25$ , $I_{OUT}=1A$	-	2.0	-	V	

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**Fig.1 Standard Test Circuit**

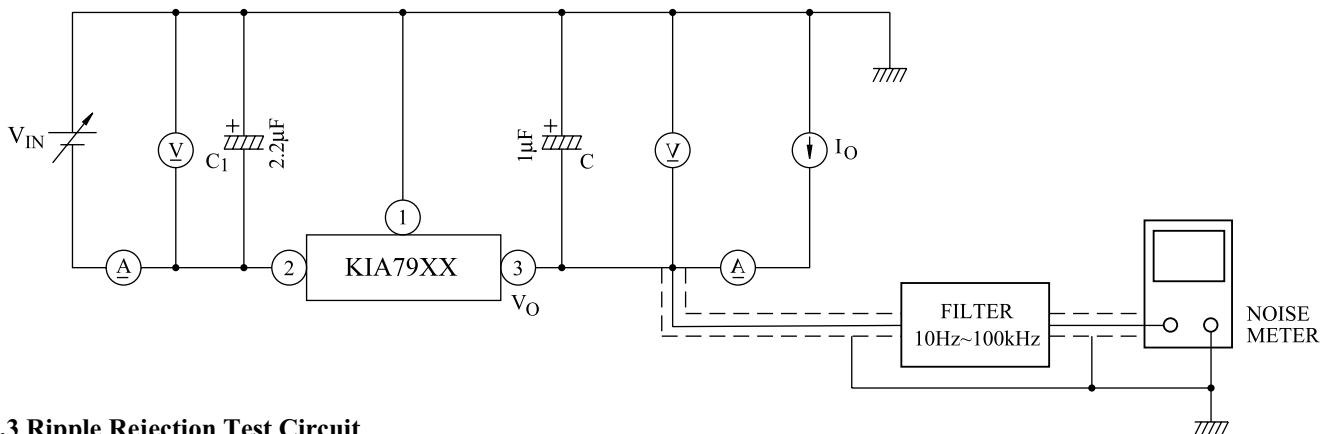


Notes : (1) To specify an output voltage, substitute voltage value for "XX"

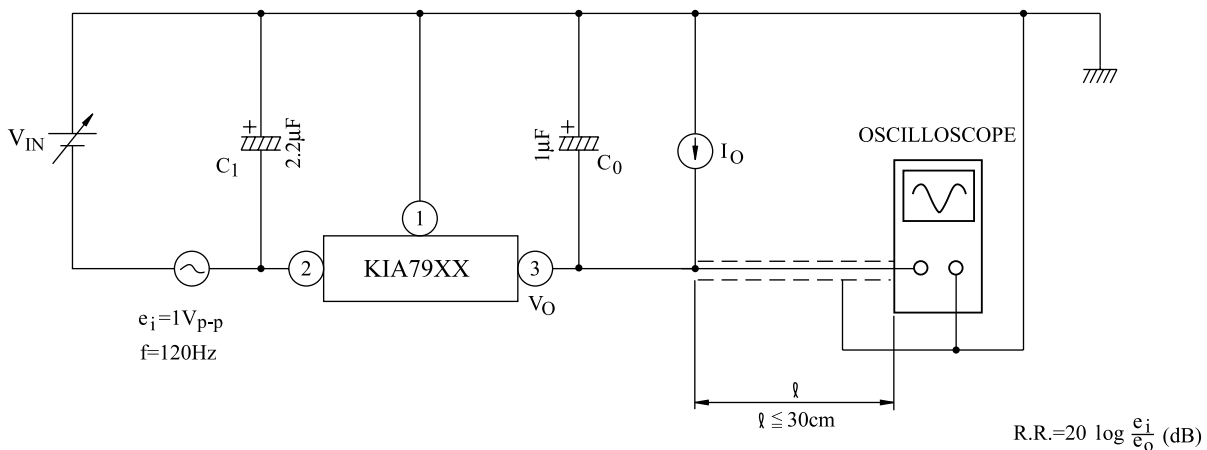
(2) Required for stability. For value given, capacitor must be solid tantalum. If aluminium electrolytics are used, at least ten times value shown should be selected.  $C_1$  is required if regulator is located an appreciable distance from power supply filter.

(3) To improve transient response. If large capacitors are used, a high current diode from input to output (1N4001 or similar) should be introduced to protect the device from momentary input short circuit.

**Fig.2  $V_{NO}$  Test Circuit**



**Fig.3 Ripple Rejection Test Circuit**



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Fig. 4

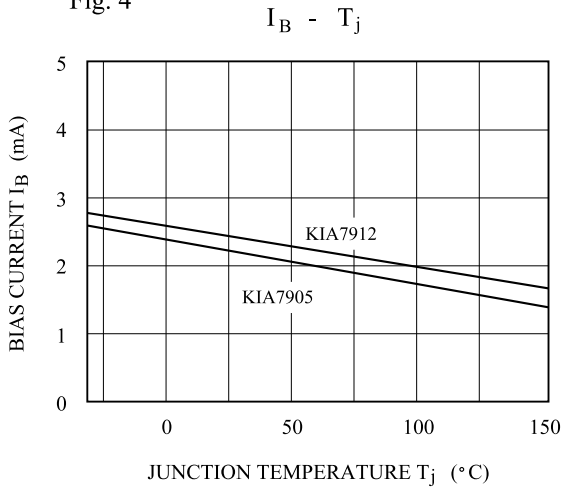


Fig. 5

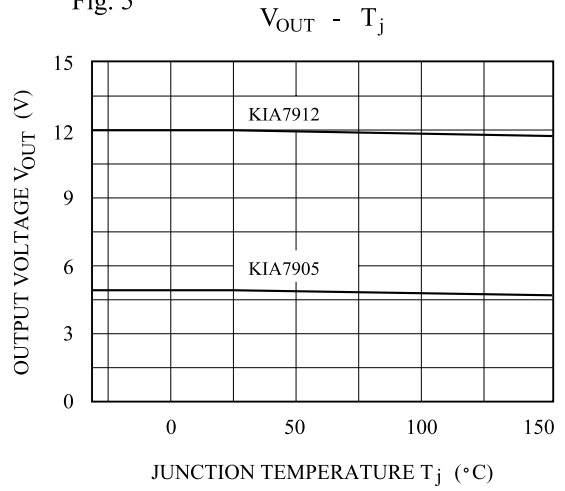


Fig. 6

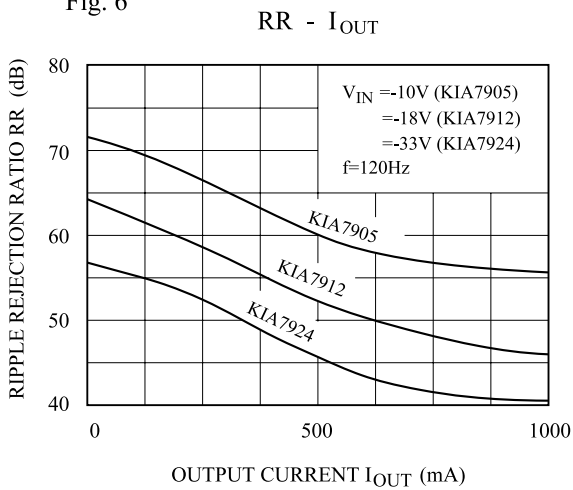


Fig. 7

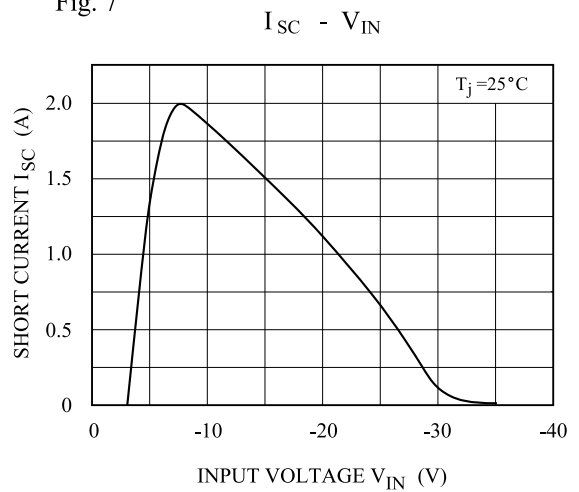


Fig. 8

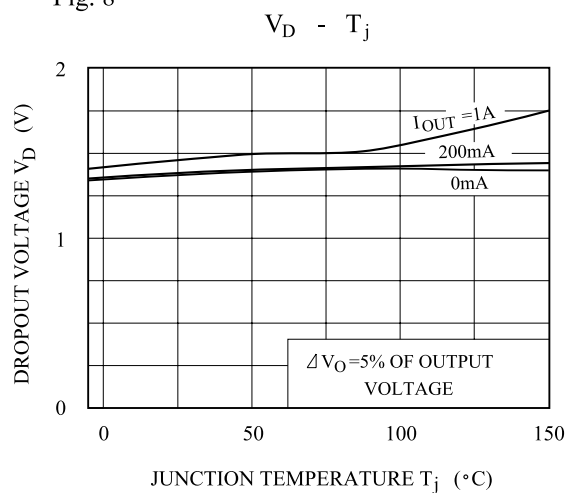
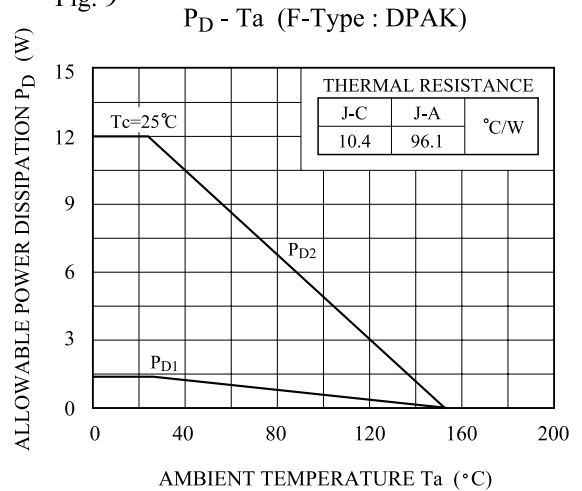
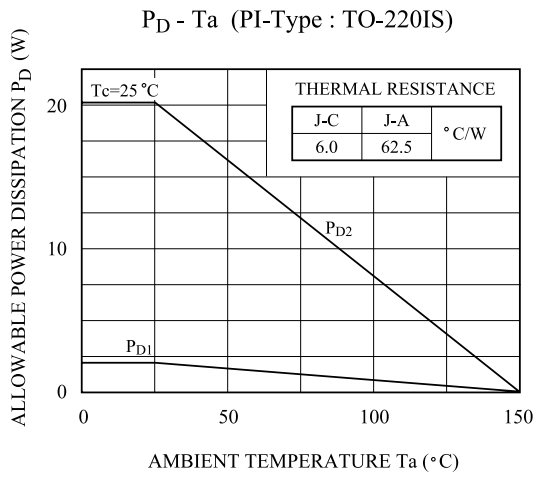


Fig. 9



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