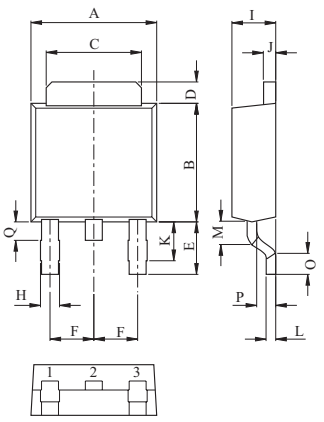
3 TERMINAL LOW DROP OUTPUT VOLTAGE REGULATOR

The KIA78D × × Series are fixed positive output low dropout type, 3-pin voltage regulators with positive outout.
These regulators are used to provide a stabilized output voltage from a fluctuating DC input voltage.
These are 12 fixed output voltage, as follows ; 2.5V, 3.3V, 3.5V, 5V, 6V, 8V, 9V, 10V, 12V, and 15V.
The maximum current capacity is 1A for each of the above voltage.

FEATURES

- Built in over voltage protection circuit, over current protection circuit and thermal shut down circuit.
- Richly diverse Lineup.
- Low minimum I/O voltage differential.



DIM	MILLIMETERS
A	6.60±0.2
B	6.10±0.2
C	5.0±0.2
D	1.10±0.2
E	2.70±0.2
F	2.30±0.1
H	1.00 MAX
I	2.30±0.2
J	0.50±0.1
K	2.00±0.20
L	0.50±0.10
M	0.91±0.10
O	0.90±0.1
P	1.00±0.10
Q	0.95 MAX

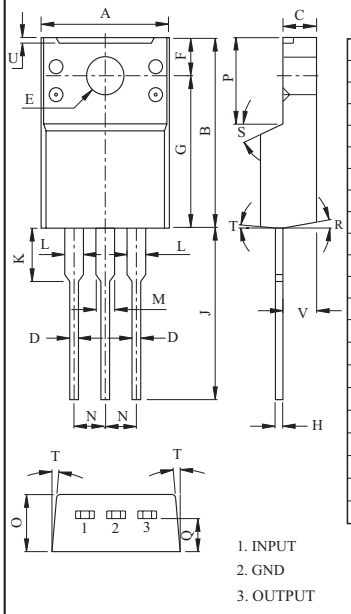
1. INPUT
2. GND
3. OUTPUT

Heat Sink is common to ②GND

DPAK

LINE UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT	PACKAGE
KIA78D25F/PI	2.5	V	F : DPAK PI : TO-220IS
KIA78D33F/PI	3.3		
KIA78D35F/PI	3.5		
KIA78D05F/PI	5		
KIA78D06F/PI	6		
KIA78D08F/PI	8		
KIA78D09F/PI	9		
KIA78D10F/PI	10		
KIA78D12F/PI	12		
KIA78D15F/PI	15		



DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	2.70 ±0.30
D	0.85 MAX
E	Φ3.20 ±0.20
F	3.00 ±0.30
G	12.30 MAX
H	0.75 MAX
J	13.60 ±0.50
K	3.90 MAX
L	1.20
M	1.30
N	2.54
O	4.50 ±0.20
P	6.80
Q	2.60 ±0.20
R	10°
S	25°
T	5°
U	0.5
V	2.60 ±0.15

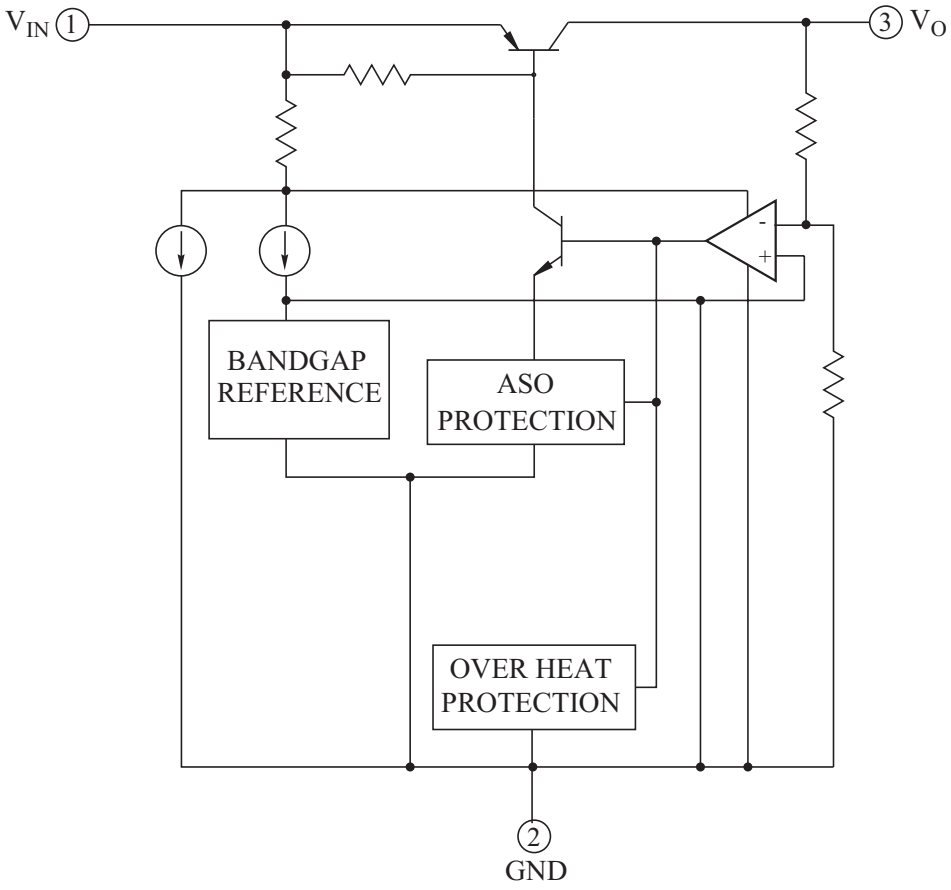
1. INPUT
2. GND
3. OUTPUT

TO-220IS

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage		V_{IN}	35	V
Output Current		I_O	1	A
Power Dissipation-1 (No Heatsink)	F	P_{D1}	1.3	W
	PI		2.0	
Power Dissipation-2 (Infinite Heatsink)	F	P_{D2}	13	
	PI		20.8	
Junction Temperature		T_j	150	℃
Operating Temperature		T_{opr}	-40～85	℃
Storage Temperature		T_{stg}	-50～150	℃
Soldering Temperature (10sec)		T_{sol}	260	℃

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS (Unless otherwise specified, I_O=0.5A, Ta=25℃, Note1.)

CHARACTERISTIC		SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output Voltage	KIA78D25	V_O	-	2.438	2.50	2.562	V
	KIA78D33		-	3.220	3.30	3.380	
	KIA78D35		-	3.413	3.50	3.587	
	KIA78D05		-	4.88	5.0	5.12	
	KIA78D06		-	5.85	6.0	6.15	
	KIA78D08		-	7.80	8.0	8.2	
	KIA78D09		-	8.78	9.0	9.22	
	KIA78D10		-	9.75	10.0	10.25	
	KIA78D12		-	11.70	12.0	12.30	
	KIA78D15		-	14.70	15.0	15.30	
Load Regulation		Reg Load	$5mA \leqq I_{OUT} \leqq 1A$	-	0.1	2.0	%
Line Regulation		Reg Line	(Note 2)	-	0.5	2.5	%
Ripple Rejection		R · R	-	45	55	-	dB
Dropout Voltage		V_D	V_{IN} =0.95V_{OUT}, I_O=1A	-	-	0.5	V
Quiescent Current		I_Q	I_{OUT}=0A	-	-	10	mA

Note1) V_{IN} of KIA78D25=4.2V, V_{IN} of KIA78D33=5.0V, V_{IN} of KIA78D35=5.2V, V_{IN} of KIA78D05=7V, V_{IN} of KIA78D06=8V, V_{IN} of KIA78D08=10V, V_{IN} of KIA78D09=15V, V_{IN} of KIA78D10=16V, V_{IN} of KIA78D12=18V V_{IN} of KIA78D15=21V

Note2) V_{IN} of KIA78D25=3.2～10V, V_{IN} of KIA78D33=4.0～10V, V_{IN} of KIA78D35=4.2～10V, V_{IN} of KIA78D05=6～12V, V_{IN} of KIA78D06=7～15V, V_{IN} of KIA78D08=9～25V, V_{IN} of KIA78D09=10～25V V_{IN} of KIA78D10=11～26V, V_{IN} of KIA78D12=13～29V V_{IN} of KIA78D15=16～32V

Fig. 1 Standard Test Circuit

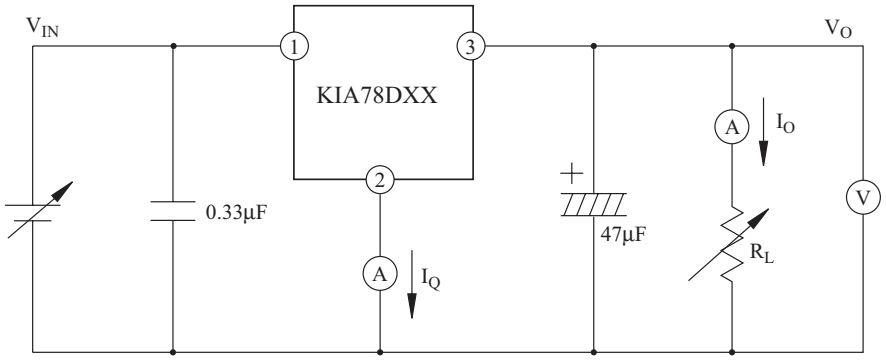


Fig. 2 Ripple Rejection Test Circuit

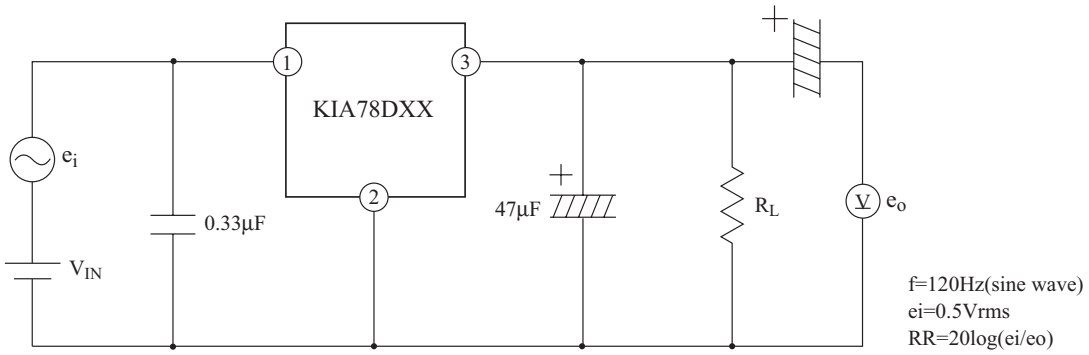


Fig. 3 Application Circuit for Standard

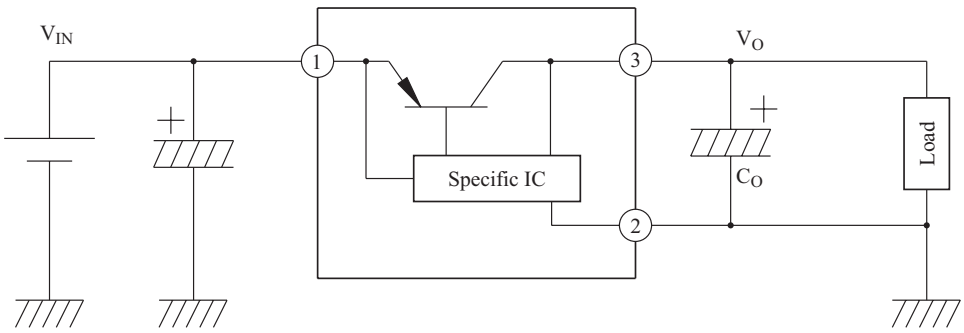


Fig.4 P_D - Ta (F-Type : DPAK)

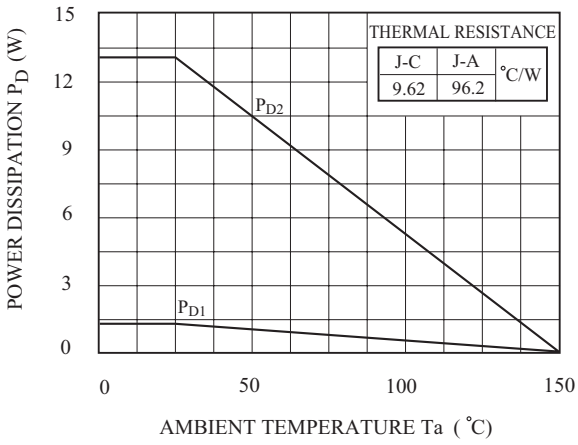


Fig.5 P_D - Ta (PI-Type : TO-220IS)

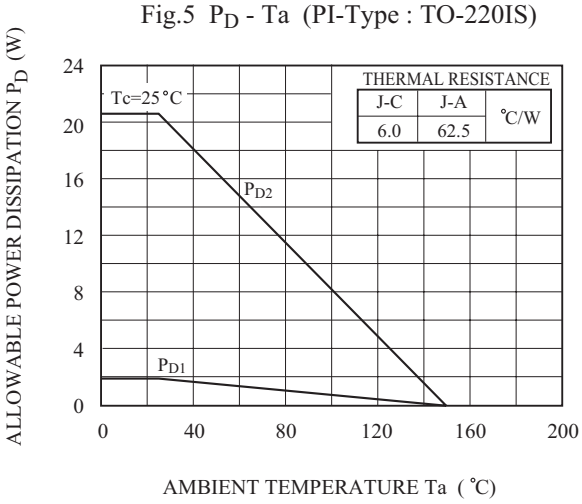


Fig.6 T_j - ΔV_O (KIA78D25)

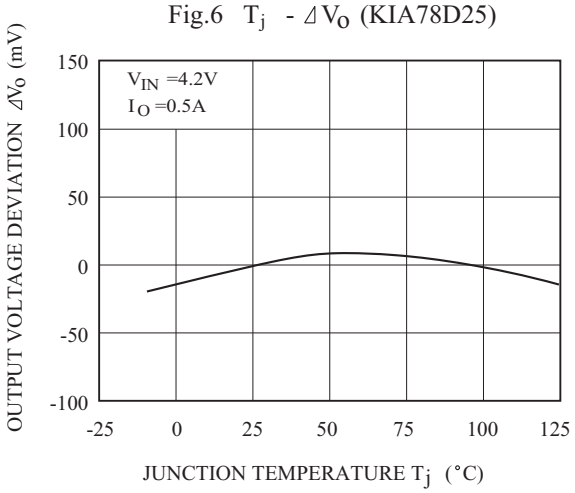


Fig.7 T_j - ΔV_O (KIA78D33)

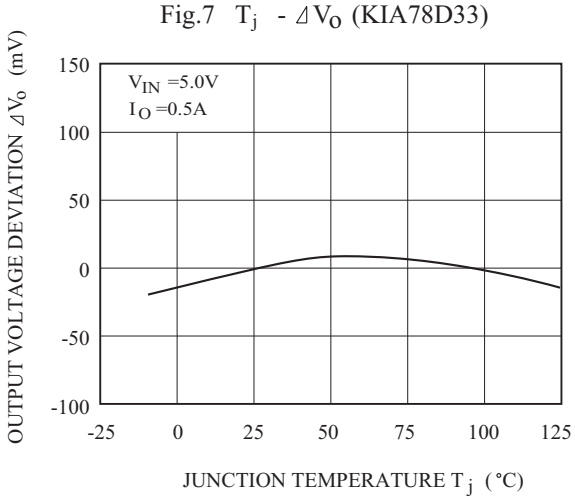


Fig.8 T_j - ΔV_O (KIA78D25)

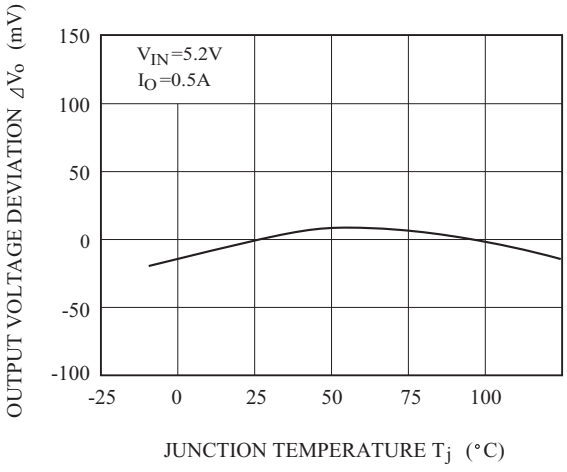


Fig.9 T_j - V_D

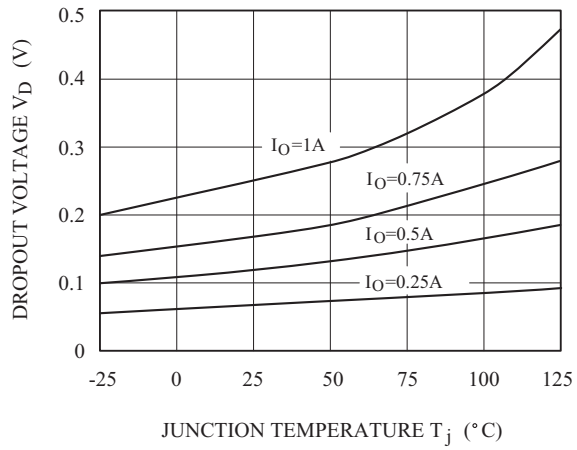


Fig.10 T_j - I_q

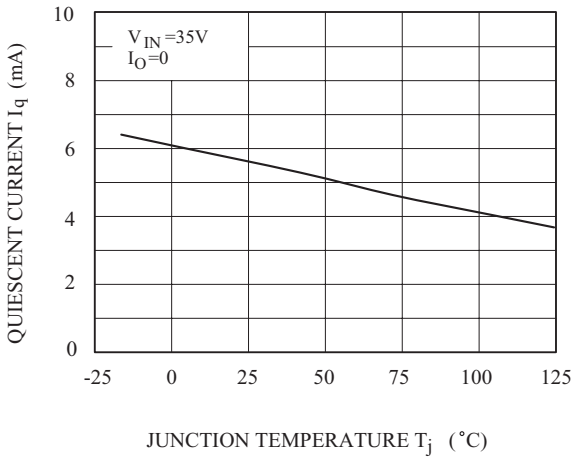


Fig.11 f - R·R

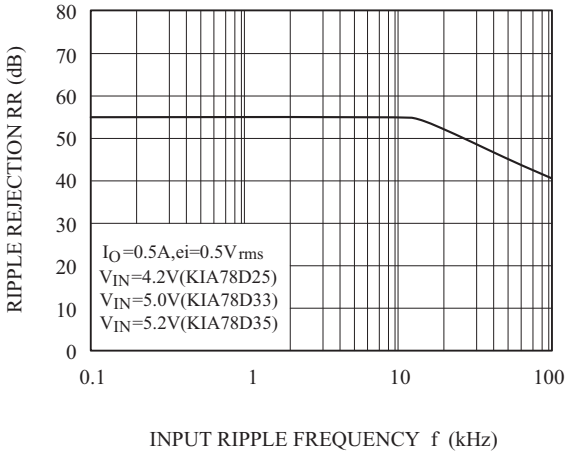


Fig.12 I_O - R·R

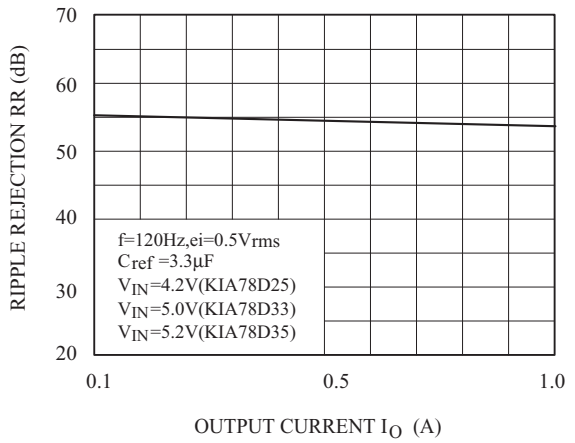


Fig. 13 I_O - V_O

