

## Three Terminal Voltage Regulator

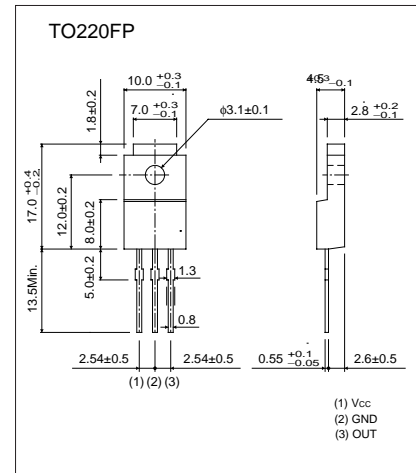
### KA05T(BA05T)

#### Features

Maximum Output Current  $I_o=1A$

Output Voltage  $V_o=5V$

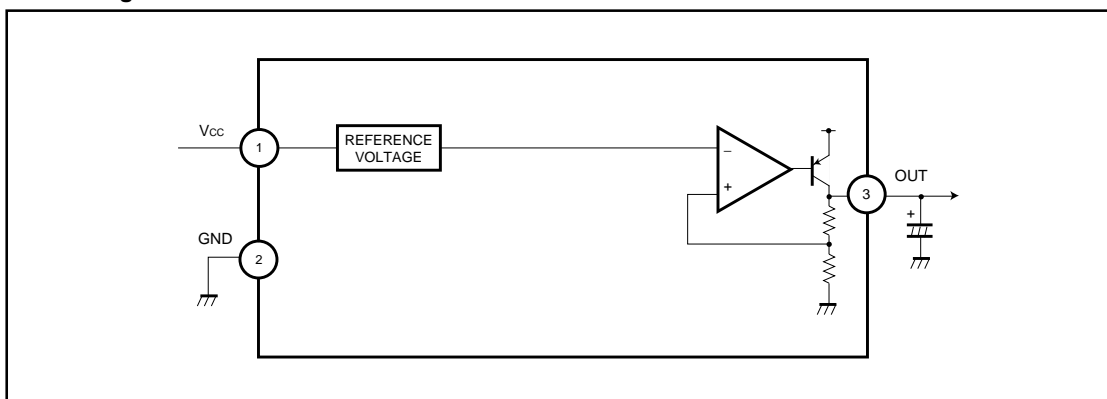
Continuous total dissipation  $P_D=2W$



#### Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	Rating	Unit
Input Voltage	$V_i$	35	V
Peak applied Voltage	$V_{surge}$	50	
Maximum Output Current $I_o=1A$	$I_o$	1	A
Maximum Power Dissipation	$P_D$	2	W
Operating Temperature range	$T_{opr}$	-40 to 125	
Storage Temperature range	$T_{stg}$	-55 to 150	

#### Block diagram



### KA05T(BA05T)

Electrical Characteristics  $T_a = 25$  (  $V_{CC}=10V$  ,  $I_o=500mA$  )

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Output voltage	$V_o$	$I_c = 100 \mu A$ , $I_E = 0$	4.75	5	5.25	V
Load Regulation	Reg.L	$I_o = 5 \text{ mA} \sim 1A$		50	150	mV
Line Regulation	Reg.l	$V_{IN} = 6 \sim 25V$		20	100	
Dropout voltage	$V_d$	$V_{CC} = 0.95 V_o$		0.3	0.5	V
Bias current	$I_b$	$I_o = 0 \text{ mA}$		2.5	5	mA
Peak output current	$I_{O-p}$		1	1.5		A
Output short-circuit current	$I_{OS}$			0.4		
Temperature coefficient of output voltage	$T_{cvo}$	$I_o = 5 \text{ mA}$ $T_j = 0 \sim 125$		$\pm 0.02$		%
Ripple Rejection	RR	$e_{IN} = 1 \text{ Vrms}$ , $f = 120\text{HZ}$ , $I_o = 100\text{mA}$	45	55		dB

#### Measurement circuits

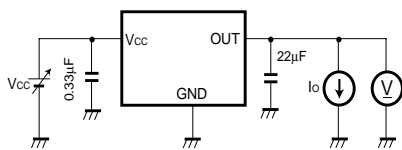
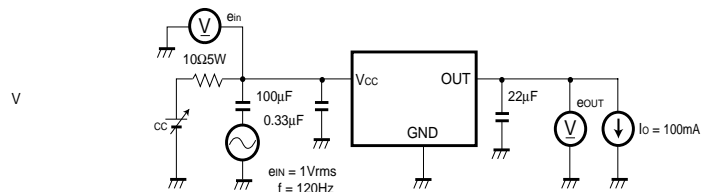


Fig. 1 Measurement circuit for output voltage, input stability, load regulation, temperature coefficient of output voltage



$$\text{Ripple rejection ratio R.R.} = 20 \log \left( \frac{I_{B(IN)}}{I_{B(OUT)}} \right)$$

Fig. 2 Measurement circuit for ripple rejection ratio

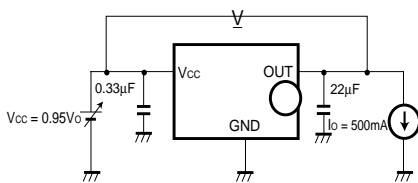


Fig. 3 Measurement circuit for minimum I/O voltage differential

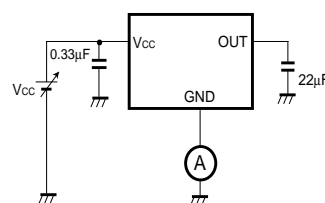


Fig. 4 Measurement circuit for bias current

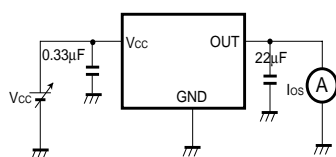


Fig. 5 Measurement circuit for output short-circuit current