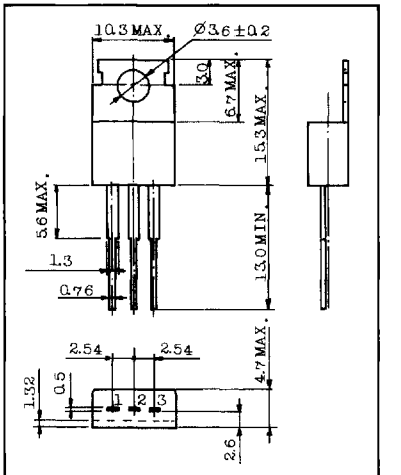
S1854

S1854 IS A REGULATOR DRIVER FOR LINE OPERATED TV, WHICH ARE BUILT UP OF ERROR AMPLIFIER TRANSISTOR, STANDARD VOLTAGE ZENER DIODE AND POLY-SILICON RESISTORS ON MONOLITHIC CHIP.

FEATURES:

- Possible to Eliminate the Output Voltage Adjustment of Regulator Stage In Line Operated TV, Combined with the Usual Power Transistors.
- High Voltage ($V_{CGO} \geqq 150V$)
- Excellent Temperature Characteristics of Regulated Output Voltage.

Unit in mm



1. +B OUTPUT
2. COLLECTOR (FIN)
3. GROUND

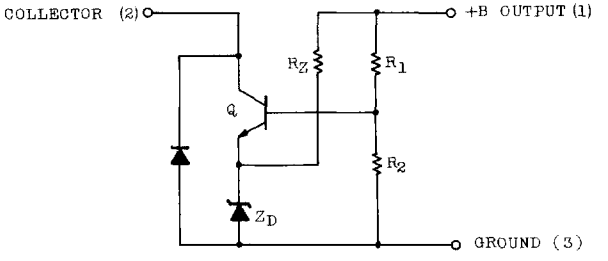
JEDEC	TO-220AB
EIAJ	SC-46
TOSHIBA	2-10A1A

Weight : 1.9g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector to Ground Voltage	V_{CGO}	150	V
Collector to +B Output Voltage	V_{CBO}	150	V
+B Output to Ground Voltage	V_{BGO}	120	V
Collector Current	I_C	50	mA
Power Dissipation	P_D	1.5	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ 150	°C
Operating Temperature Range	T_{opr}	-25 ~ 75	°C

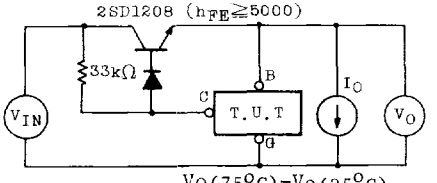
EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $Tc=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector to Ground Breakdown Voltage	$V_{(BR)CGO}$	I_C=1mA, I_B=0	150	-	-	V
Collector Cut-off Current	I_{CGO}	V_{CG}=120V, V_{BG}=0	-	-	1.0	μA
Regulated Output Voltage	V_O	V_{IN}=150V I_O=10mA, (Note 1)	112.5	-	117.5	V
Temperature Coefficient of Regulated Output Voltage	γV_O	V_{IN}=120V, I_O=10mA Tc=25°C,75°C (Note 2)	-	-	±100	PPM/°C
Regulation	ΔV_O	V_{IN}=120V, 150V I_O=10mA (Note 3)	-	-	1.5	V
Zener Voltage (Refference Inly)	V_Z	I_Z=1mA	-	6.0	-	V
Resistance of R_1 (Refference Only)	R_1	I_{R1}=1mA	-	36	-	kΩ
Resistance of R_2 (Refference Only)	R_2	I_{R2}=1mA	-	2.2	-	kΩ
Resistance of R_Z (Refference Only)	R_Z	I_{RZ}=1mA	-	40	-	kΩ
DC Current Gain of Q (Refference Only)	h_{FE}	V_{CE}=80V, I_C=2mA	-	200	-	-
Transition Frequency of Q	f_T	V_{CE}=10V, I_C=10mA	-	120	-	MHz

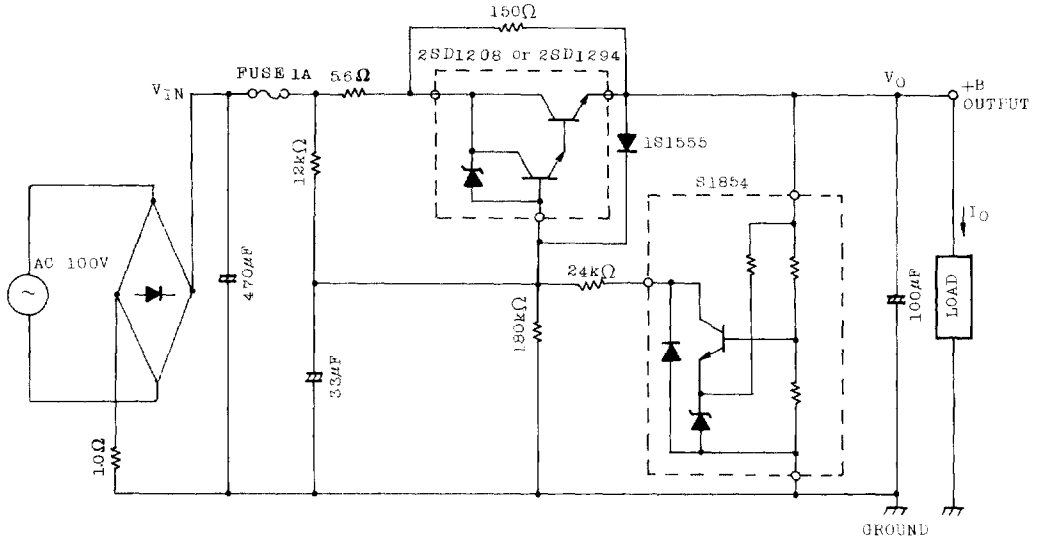
Note 1 : TEST METHOD

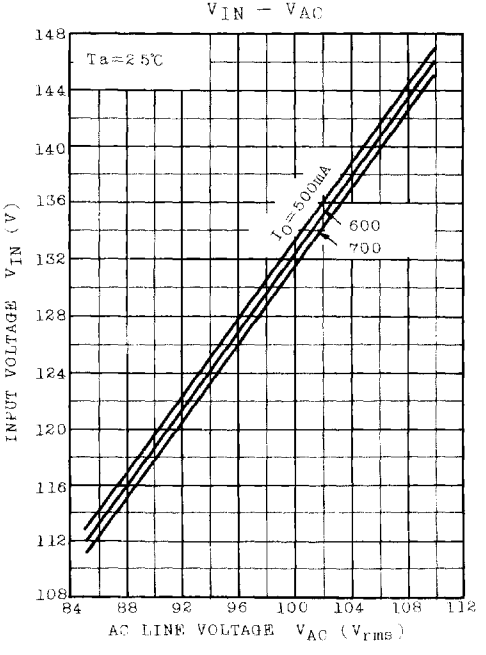


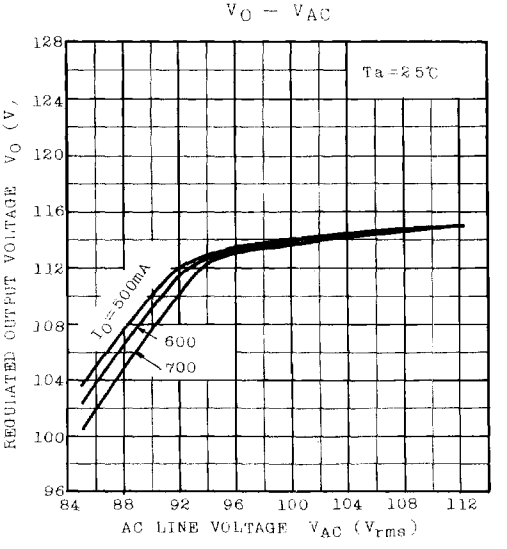
Note 2 : $\gamma V_O = \frac{V_{O(75^{\circ}C)}-V_{O(25^{\circ}C)}}{V_{O(25^{\circ}C)}\times 50}\times 10^6$ (PPM/°C) where $V_{O(75^{\circ}C)}$; V_O at Tc=75°C
$V_{O(25^{\circ}C)}$; V_O at Tc=25°C

Note 3 : $\Delta V_{O(150V)} - V_{O(120V)}$ where $V_{O(120V)}$; V_O at V_{IN}=120V
$V_{O(150V)}$; V_O at V_{IN}=150V

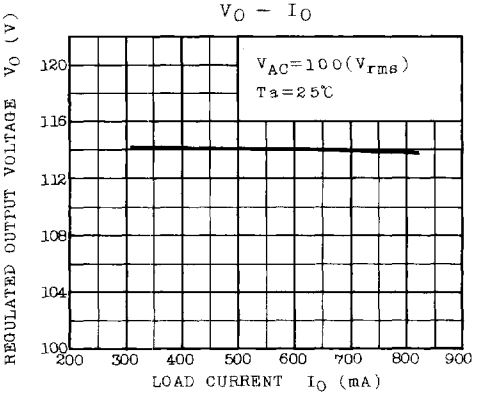
APPLICATION CIRCUIT



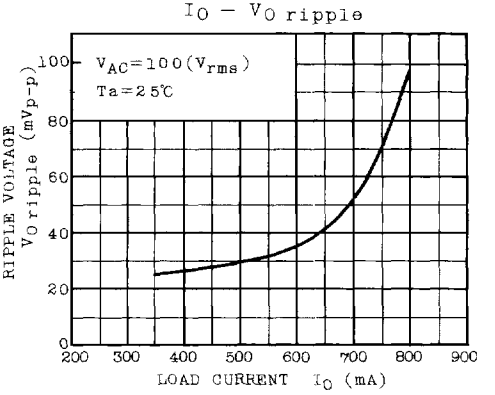




$V_O - I_O$



$I_O - V_O$ ripple



ASO
(FOR ERROR AMPLIFIER TRANSISTOR)