

S P E C I F I C A T I O N S

Sanken Hybrid TV Regulator Module (Series STR)

Date: August 13, 1979
 Specification No.: ES79047

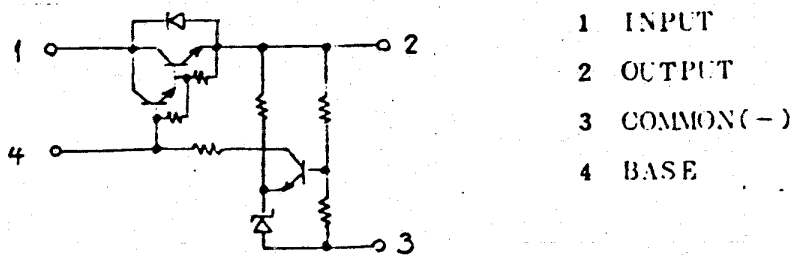
1. Scope:

This specification shall only apply to Sanken Hybrid Series Voltage Regulator for line-operated TV incorporating output transistor and error detection circuit.

2. Features:

- a. Triple diffused darlington transistor chips are incorporated.
- b. Compact and rugged design by TO-3 package with industry standard reliability.
- c. No external adjustment is required since the output voltage is fixed with accuracy.
- d. Choice of Output Voltage: standard output voltage is set as 110V, 115V, 123V, 130V.

3. Equivalent Circuit:



4. Outline Drawing, Marking and Pin Connection:

Refer to Fig. 3.



5. Absolute Maximum Ratings

Description	Symbol	Unit	Rating
Maximum Peak Input Voltage	V_{inp}	V	200
Maximum Output Current	I_{omax}	A	1.0
Maximum Power Dissipation	P_{omax}	W	25 ($T_C=100^{\circ}C$)
Operating Temperature	T_{op}	$^{\circ}C$	-20~125 *
Storage Temperature	T_{stg}	$^{\circ}C$	-40~125
Power Transistor Junction Temperature	T_j	$^{\circ}C$	150 max.

* Recommended operating temperature, T_{op} (T_C) = $100^{\circ}C$



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6. Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Description	Symbol	Unit	Rating	Conditions
Output Voltage	V_o	V	110±1~130±1	See Table 1
Line Regulation		V	±1	$V_{IN(AC)} = \pm 10\%$, $I_o = 0.5\text{A}$
Load Regulation		V	±1	$I_o = 0.25 \sim 0.5\text{A}$
Output Voltage Temperature Coefficient		mV/°C	7.0	$V_{IN} = V_{IN(AC)}$, $I_o = 0.5\text{A}$ $T_c = -20 \sim 100^\circ\text{C}$ *
In-Out Saturation Voltage	$V_{CE(sat)}$	V	1.5 max.	$I_c = 1.0\text{A}$, $I_b = 5\text{mA}$
In-Out Peak Current	I_{CEO}	μA	100	1-2 Terminal (V_{CE}) = 200V 3-4 Terminal: Open
DC Current Gain	h_{FE}		1500~5500	$I_c = 1.0\text{A}$, $V_{CE} = 4\text{V}$
Overload Capacity	$T_{S/B}$	sec.	1.0 min.	$I_c = 1.0\text{A}$, $V_{CE} = 100\text{V}$
Power Transistor Thermal Resistance	θ_{jc}	°C/W	1.8	between Junction and Stem Upper Surface

* See Fig. 2, Condition: $I_{IN} = 6\text{mA}$

Fig. 1 Test Circuit 1

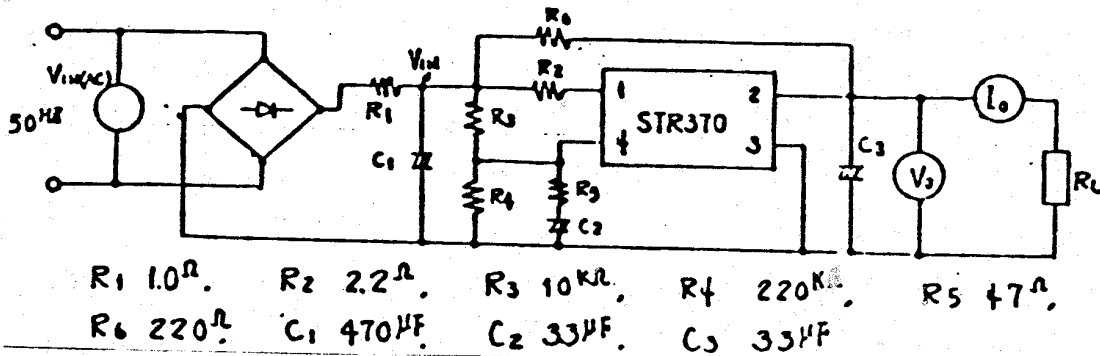


Fig. 2 Test Circuit 2

According to Input-Output Characteristics at no Load.

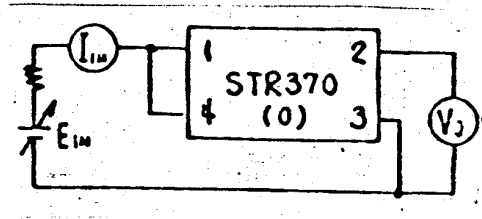


Table 1. Output Voltage Rank

Type No.	Condition 1	Condition 2 (Outgoing Test)	Rating
STR370	$V_{AC}=100V\pm 10\%$ Test Circuit 1, $R_3=10k\Omega$	Test Circuit 2 $I_{IN}=6mA$	110V $\pm 1V$
STR371	same as above	same as above	115V $\pm 1V$
STR380	$V_{AC}=120V\pm 10\%$ Test Circuit 1, $R_3=12k\Omega$	Test Circuit 2 $I_{IN}=7mA$	123V $\pm 1V$
STR381	same as above	same as above	130V $\pm 1V$