



SANKEN ELECTRIC COMPANY, LTD.

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

Sanken Hybrid Voltage Regulator Module, STR Series  
Sanken Part No: STR54041

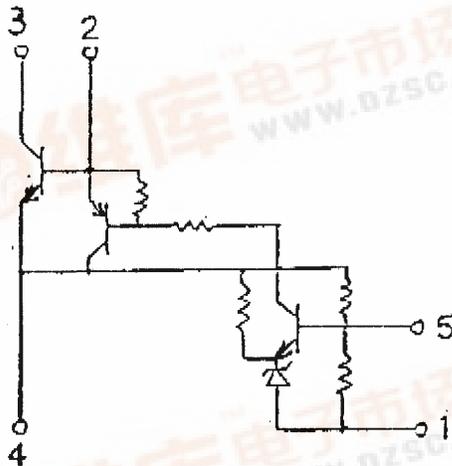
Messrs :

Date : October 8, 1985  
Specification No. : ES85044

1. Features:

- a. Hybrid Voltage Regulator Module incorporated triple diffused planar transistor chips
- b. Transfer Molded
- c. For TV Switch Mode Power Supply
- d. Fixed Output Voltage

2. Equivalent Circuit



- 1. Vout SENSE (-)
- 2. BASE DRIVE (B)
- 3. IN PUT (C)
- 4. EARTH (E)
- 5. Vo CONT

3. Outline Drawing, Marking and Pin Connections

Refer to Figure 1

4. The type number and lot number shall be legitimately marked by white color.





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### 5. Absolute Maximum Ratings

Description	Symbol	Unit	Ratings
Maximum Peak Input Voltage	$V_{IN}$	V	900
Input Current	$I_{IN}$	A	6 (Pulse 12)
Maximum Power Dissipation	$P_D$	W	27 ( $T_c=100^\circ\text{C}$ )*
Operating Temperature	$T_{op}$	$^\circ\text{C}$	-20--+125 ( $T_c$ )
Storage Temperature	$T_{stg}$	$^\circ\text{C}$	-30--+125
Power Transistor Junction Temperature	$T_j$	$^\circ\text{C}$	+150

\* Recommendation Case Temperature  $T_{op}(T_c)=100^\circ\text{C}$  Max

#### Suggested Silicone Grease

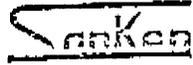
C746: SHIN-ETSU CHEMICAL INDUSTRY CO., LTD.  
C747: SHIN-ETSU CHEMICAL INDUSTRY CO., LTD.  
YG6260: TOSHIBA SILICONE CO., LTD.  
SC102: TORAY SILICONE CO., LTD.



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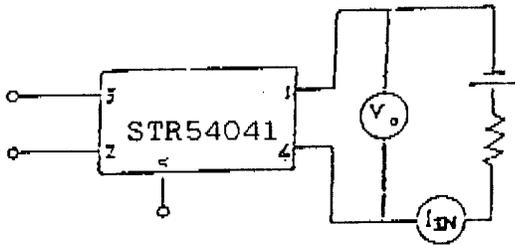
6. Electrical Characteristics 1

Description		Conditions	Ratings	
Fixed Output Voltage (Detecting Voltage)		$I_{IN}=7mA$ , Measurement Circuit 1	$41.8 \pm 0.5V$	
Output Voltage Temperature Coefficient		$T_C = -20 \text{--} +100^\circ C$ , $I_{IN}=7mA$ Measurement Circuit 1	$\pm 2.0mV/^\circ C$	
Power Transistor Characteristics	$V_{CE(sat)}$	$I_C=2A$ , $I_B=0.4A$	1.0V Max	
	$h_{FE}$	$V_{CE}=4V$ , $I_C=1A$	Min 10 Max 30	
	$I_{CEX}$	$V_{CE}=900V$ , $V_{BE}=-1.5V$	1.0mA Max	
	$V_{BE(sat)}$	$I_C=2A$ , $I_B=0.4A$	1.5V Max	
	$R_{\theta J-c}$	Between Junction and Stem Upper Surface	1.8 $^\circ C/W$	
	Switching Time	Measurement Circuit 2	$t_s$	7 $\mu sec$ Max
			$t_f$	1.0 $\mu sec$ Max

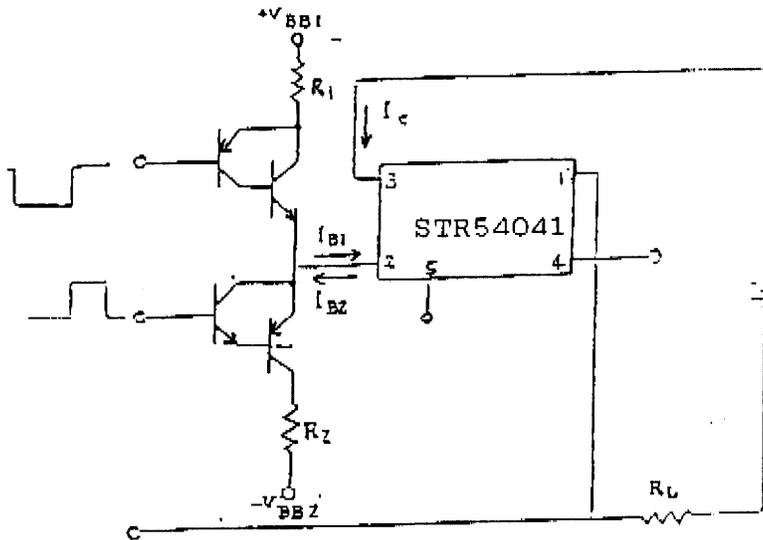


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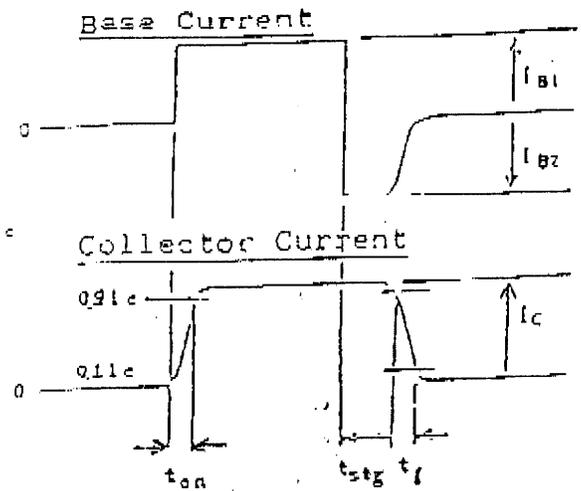
Measurement Circuit 1.



Measurement Circuit 2

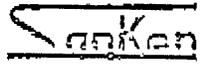


$I_c = 2A$  ,  $R_L = 50\Omega$   
 $I_{B1} = 300mA$  ,  $I_{B2} = 1.0A$



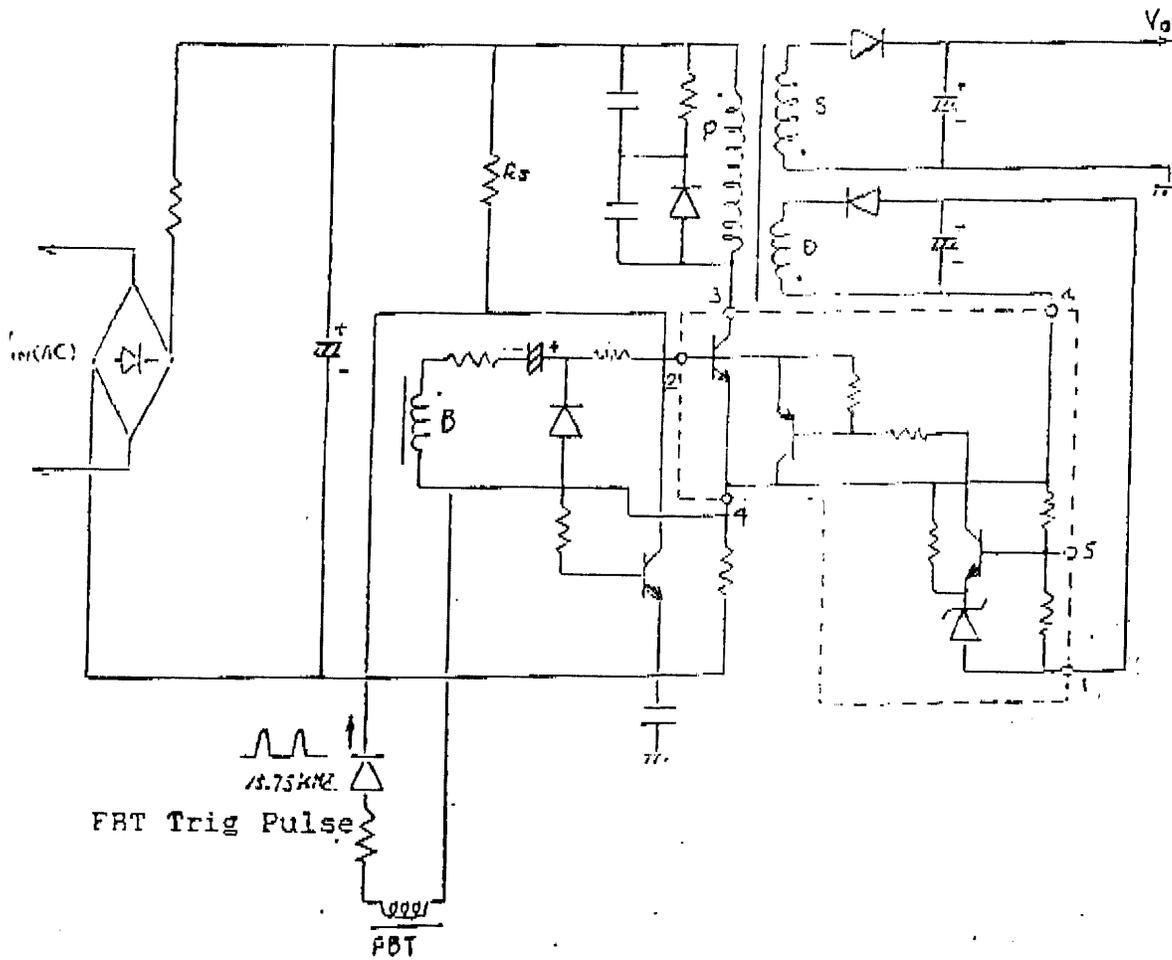
7. Electrical Characteristics 2

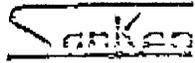
Description	Conditions	Ratings
Output Voltage	$V_{IN} = 220V$ , $I_o = 0.5A$ Actual Working Circuit 1.	$114.5 \pm 1.5V$
Line Regulation	$V_{IN} = 180 \sim 280V$ , $I_o = 0.5A$ Actual Working Circuit 1	Initial Value $\pm 1V$
	$V_{IN} = 220V$ , $I_o = 0.5A$	Initial Value $\pm 2V$



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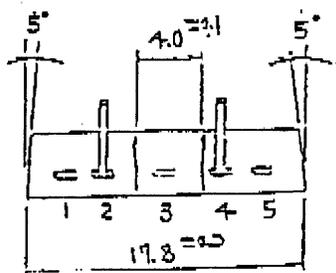
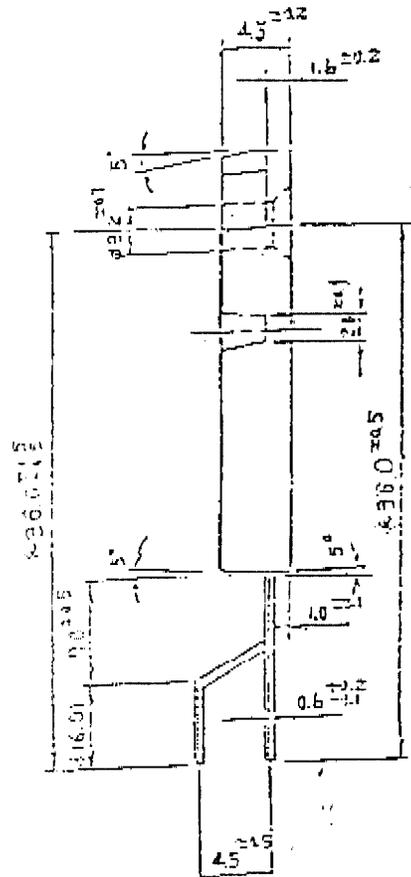
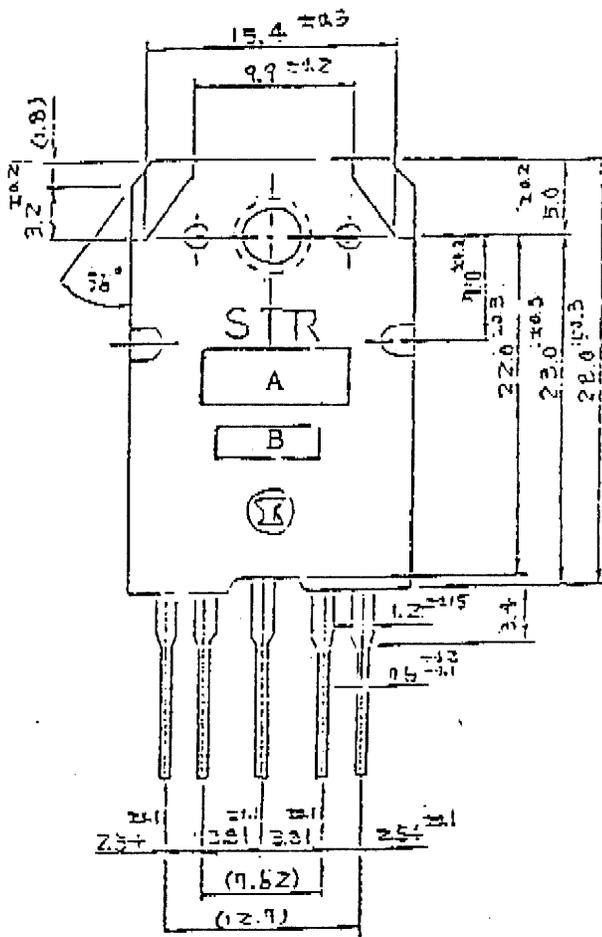
Actual Working Circuit 1.  
(Reference Circuit Diagram)





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Figure 1.



A. Type Number : 54041

B. Lot Number

1st letter: The last numerical figure of calendar year

2nd letter: Month (1 to 9 for Jan to Sep.,  
O for Oct.,  
N for Nov.,  
D for Dec.)

3rd, 4th letter: Date

1. Vout SENSE (-)

2. BASE DRIVE