



**SANKEN ELECTRIC COMPANY, LTD.**

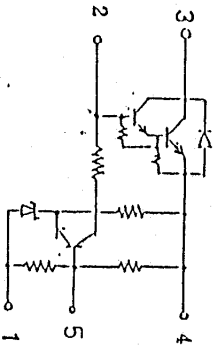
S P E C I F I C A T I O N

SanKen Hybrid IC Voltage Regulator STR30000 Series

Date : December 2, 1986  
 Specification No. : SSE-15051

1. Features:
- A. Hybrid IC Voltage Regulator incorporated triple diffused planar darlington transistor
  - B. For Line-Operated CTV
  - C. Fixed Output Voltage

2. Equivalent Circuit



- 1. Common
  - 2. Base
  - 3. Input
  - 4. Output
  - 5. Blank
- \* STR30110 has pin No.5 for output voltage adjustment.



- 3. Outline Drawings, Marking and Pin connections are as per attached Fig.-1.
- 4. The type number, voltage and lot number shall be legitimately marked by white color.
- 5. Absolute Maximum Ratings

Description	Symbol	Unit	Ratings
Maximum Peak Input Voltage	$V_{IN}$	V	200
Maximum Output Current	$I_O$	A	1.0
Maximum Power Dissipation	$P_D$	W	27 ( $T_c=100^{\circ}C$ )
Operating Temperature	$T_{op}$	$^{\circ}C$	-20 ~ +125 ( $T_c$ )
Storage Temperature	$T_{stg}$	$^{\circ}C$	-30 ~ +125
Junction Temperature of Power Transistor	$T_j$	$^{\circ}C$	+150 Max

\*1. Recommended Case Temperature :  $T_c(op)=100^{\circ}C$





# SANKEN ELECTRIC COMPANY, LTD.

## 6. Electrical Characteristics $T_a = 25^\circ C$

Description	Conditions	Ratings
Fixed Output Voltage (Measuring Circuit 1 and 2)	See the Table	See the Table **
Line Regulation (Measuring Circuit 1)	"	"
Load Regulation (Measuring Circuit 1)	"	"
Output Voltage Temperature Coefficient	"	"
In-Out Saturation Voltage ( $V_{CE(sat)}$ )	$I_C=1.0A, I_B=10mA$	1.5V Max
In-Out Breakdown Voltage ( $V_{CEO}$ )	$I_{CEO}=10mA, I_B=0A$	200V Min
DC Current Gain ( $h_{FE}$ )	$I_C=1.0A, V_{CE}=4V$	1,500 ~ 6,500
Thermal Resistance ( $R_{th(j-c)}$ )	Junction and Copper plate of IC	1.8°C/W
In-Out Leak Current ( $I_{CEO}$ )	$V_{CE}$ (Pin 3-4)=200V $P_{IH}$ 1, 2 and 5 open	100µA Max
Reverse Surge Current Between Pin 4 and 2	$t=65msec$	300mA Max

\*\* The fixed output voltage is to be measured at 5 seconds passed after power switch turned on. When the output voltage at the measuring circuit 1 is deviated from the specified, it is to be judged by the measuring circuit 2.

### Suggested Silicone Grease

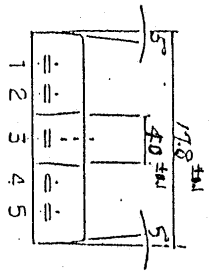
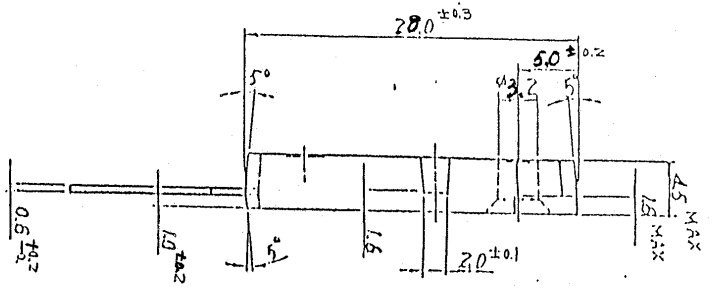
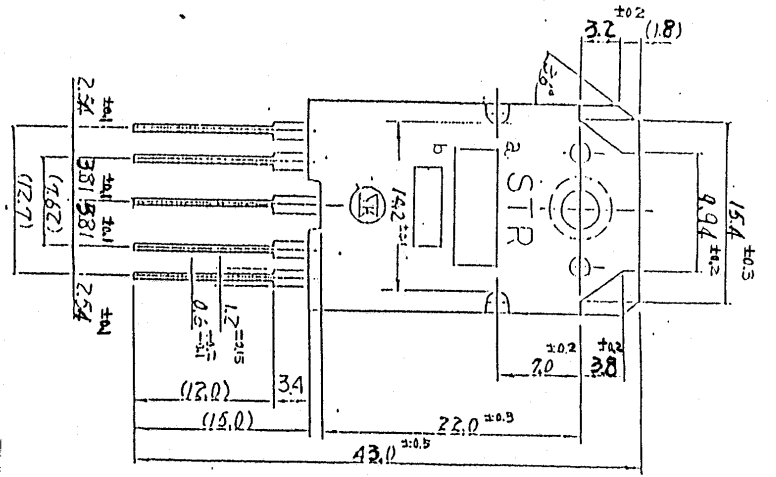
- C746: SHIN-ETSU CHEMICAL INDUSTRY CO., LTD.
- C747: SHIN-ETSU CHEMICAL INDUSTRY CO., LTD.
- YG6260: TOSHIBA SILICONE CO., LTD.
- SCI02: TORAY SILICONE CO., LTD.

Table

Description	Type No.		Specified Voltage		STR30120	STR30123	STR30125	STR30130	STR30134	STR30135
	STR30110	STR30112	STR30113	STR30115						
1	Conditions 1 (Measuring Circuit 2)	$I_{IN} = 5.9 \text{ mA}$		$I_{IN} = 7.2 \text{ mA}$	$I_{IN} = 6.9 \text{ mA}$					
		$V_{IN} = 134 \text{ V (DC)}, I_o = 0.5 \text{ A}$				$V_{IN} = 161 \text{ V (DC)}, I_o = 0.5 \text{ A}$				
2	Conditions 2 (Measuring Circuit 1)	$V_{IN} = 125 \sim 150 \text{ V (DC)}$		$\Delta 2.4 \text{ V Max}$						
		$I_o = 0.5 \text{ A}$		$V_{IN} = 145 \sim 170 \text{ V (DC)}$		$I_o = 0.5 \text{ A}$		$V_{IN} = 150 \sim 175 \text{ V (DC)}$		
3	Specified Regulation	$\Delta 0.5 \text{ V Max}$								
		$V_{IN} = 134 \text{ V (DC)}$		$V_{IN} = 161 \text{ V (DC)}$						
4	Conditions (Measuring Circuit 1)	$I_o = 0.25 \sim 0.5 \text{ A}$		$\pm 0 \text{ mV}/^\circ\text{C typ}$						
		$V_{IN} = 134 \text{ V (DC)}, I_o = 0.5 \text{ A}$		$V_{IN} = 161 \text{ V (DC)}, I_o = 0.5 \text{ A}$						
Value of resistors used in Measuring Circuit 1	Specified Coefficient	$I_o = -20 \sim 100^\circ\text{C}$		$T_o = -20 \sim 100^\circ\text{C}$						
		$R_3 = 10 \text{ K}\Omega$ $R_4 = 220 \text{ K}\Omega$		$R_3 = 12 \text{ K}\Omega$ $R_4 = 220 \text{ K}\Omega$		$R_3 = 12 \text{ K}\Omega$ $R_4 = 330 \text{ K}\Omega$				

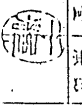
STR30000 Series

Fig.-1  - 1



a. Type number  
 b. Lot number  
 1st character for year  
 2nd character for month  
 Jan ~ Sept: 1 ~ 9  
 October : O  
 November : N  
 December : D  
 3rd and 4th characters  
 for date : 01 ~ 31

- 1. Common (Ground)
  - 2. Base Drive
  - 3. Input
  - 4. Output
  - 5. Blank
- \* STR30110 has pin No.5 for output voltage adjustment.

1	4 短	短	短	短	短		Outline Drawings for Plastic Molded STR (2GR)
2	3 短	短	短	短	短		
3	2 短	短	短	短	短		
4	1 短	短	短	短	短		
5							