



SANKEN ELECTRIC COMPANY, LTD.

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

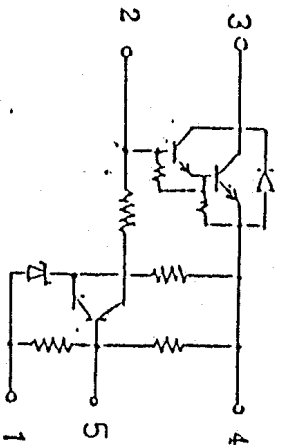
SanKen Hybrid IC Voltage Regulator STR30000 Series

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 $\sim$ +125(T_c)
Storage Temperature	T_{stg}	$^{\circ}C$	-30 $\sim$ +125
Junction Temperature of Power Transistor	T_j	$^{\circ}C$	+150 Max

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



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

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 ($V_{CE(sat)}$)	$I_C = 1.0\text{A}$, $I_B = 10\text{mA}$	1.5V Max
In-Out Breakdown Voltage (V_{CEO})	$I_{CEO} = 10\text{mA}$, $I_B = 0\text{A}$	200V Min
DC Current Gain (h_{FE})	$I_C = 1.0\text{A}$, $V_{CE} = 4\text{V}$	1,500 ~ 6,500
Thermal Resistance ($R_{th(j-c)}$)	Junction and Cupper plate of IC	1.8 $^{\circ}\text{C/W}$
In-Out Leak Current (I_{CEO})	V_{CE} (Pin 3-4)=200V Pin 1, 2 and 5 open	100 μA Max
Reverse Surge Current Between Pin 4 and 2	$t = 65\text{msec}$	300mA Max

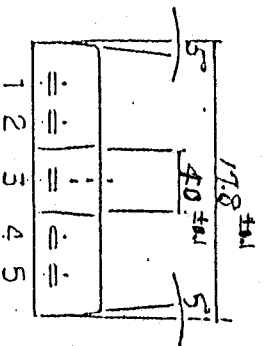
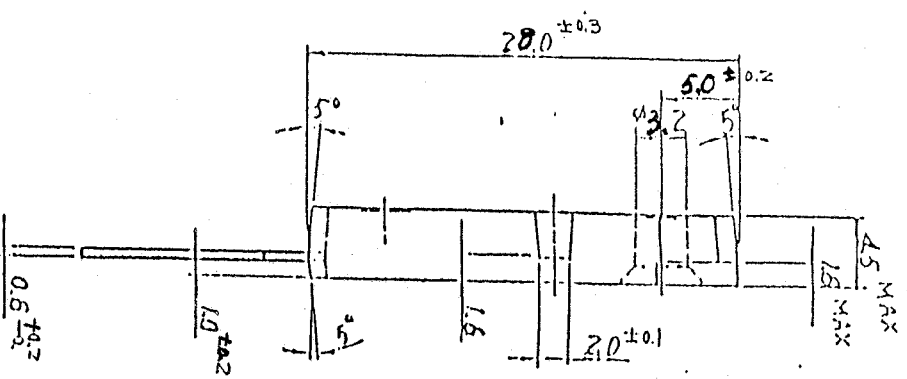
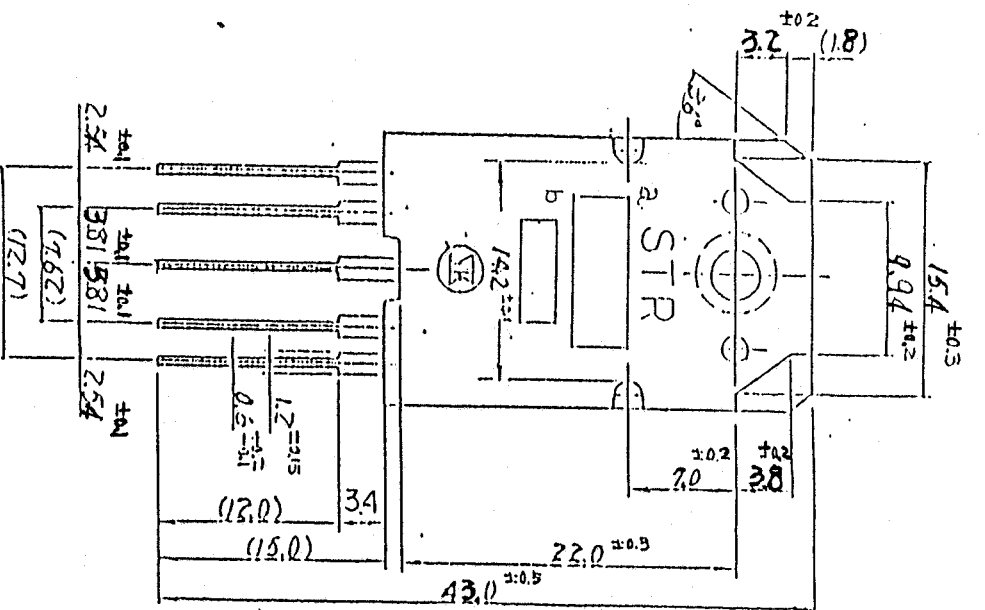
** The fixed output voltage is to be measured at 5 seconds
passed after power switch turned on.
When the output voltage at the measuring circuit 1 is
deviated from the specified, it is to be judged by the
measuring circuit 2.

Suggested Silicone Grease

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

Table

Type No.		STR30110	STR30112	STR30113	STR30115	STR30120	STR30123	STR30125	STR30130	STR30134	STR30135
Description											
1	Specified Voltage	110±0.8V	112±0.8V	113±0.8V	115±0.8V	120±0.8V	123±0.8V	125±0.8V	130±0.8V	134±0.8V	135±0.8V
	Conditions 1 (Measuring Circuit 2)	I _{IN} = 5.9 mA				I _{IN} = 7.2 mA			I _{IN} = 6.9 mA		
	Conditions 2 (Measuring Circuit 1)	V _{IN} = 134 V(DC), I _o = 0.5 A				V _{IN} = 161 V(DC), I _o = 0.5 A					
2	Specified Regulation	Δ 2.4 V max									
	Conditions (Measuring Circuit 1)	V _{IN} = 125 ~ 150 V(DC) I _o = 0.5 A				V _{IN} = 145 ~ 170 V(DC) I _o = 0.5 A			V _{IN} = 150 ~ 175 V(DC) I _o = 0.5 A		
3	Specified Regulation	Δ 0.5 V max									
	Conditions (Measuring Circuit 1)	V _{IN} = 134 V(DC) I _o = 0.25 ~ 0.5 A				V _{IN} = 161 V(DC) I _o = 0.25 ~ 0.5 A					
4	Specified Coefficient	± 0 mV/℃ typ									
	Conditions (Measuring Circuit 1)	V _{IN} = 134 V(DC), I _o = 0.5 A I _o = -20 ~ 100 ℃				V _{IN} = 161 V(DC), I _o = 0.5 A T _c = -20 ~ 100 ℃					
Value of resistors used in Measuring Circuit 1		R ₃ = 10 KΩ R ₄ = 220 KΩ			R ₃ = 10 KΩ R ₄ = 330 KΩ		R ₃ = 12 KΩ R ₄ = 220 KΩ		R ₃ = 12 KΩ R ₄ = 330 KΩ		



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

a. Type number
b. Lot number

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1st character for year
2nd character for month
Jan ~ Sept: 1 ~ 9
October : 0
November : N
December : D
3rd and 4th characters
for date : 01 ~ 31

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4	4	.	4	4	4	Outline Drawings for Plastic Molded STR (2GR)
3	3	.	3	3		
2	2	.	2	2		
1	1	.	1	1		
0	0	.	0	0		