

**SPECIFICATION**

MESSRS.

**DEVICE TYPE NAME**

**Sanken** Hybrid Voltage Regulator - STR30130

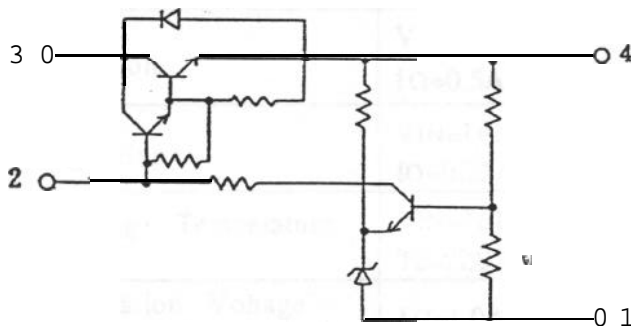
1. scope

The present specification shall only apply to **Sanken** Hybrid Voltage Regulator, type **STR30130**

2. Features

- a) Hybrid Voltage Regulator with a triple diffused planar **darlington** transistor.
- b) For Line-operated TV
- c) Fixed output voltage
- d) Plastic package (Transfer Mold)

3. Equivalent circuit



- 1. COMMON (-)
- 2. BASE
- 3. INPUT
- 4. OUTPUT

4. Outline drawings, dimension and pin connections are as Fig-1.

5. The type number and lot number shall be marked clearly with white.

DATE ISSUED : Nov. 27 ,1992

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APPROVED BY : *W. Sekine*

APPLICATION ENGINEERING  
SEMICONDUCTOR DIVISION

SPECIFICATION NUMBER

**SSE-19077E**

6 Absolute Maximum Ratings( $T_a=25^{\circ}\text{C}$ )

Description	Symbol	Unit	Ratings	
Peak Input Voltage	$V_{IN}$	V	200	
Output Current	$I_O$	A	1.0	
Power Dissipation	$P_D$	W	27 ( $T_c=100^{\circ}\text{C}$ )	
Operating Temperature	$T_{OP}$	$^{\circ}\text{C}$	-20~+125 ( $T_c$ )	(Note1)
Storage Temperature	$T_{stg}$	$^{\circ}\text{C}$	-30~+125	
Power Transistor Junction Temperature	$T_j$	$^{\circ}\text{C}$	+150 $^{\circ}\text{C}$ Max	

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

Description	Conditions	Ratings	
Fixed Output Voltage	$I_{IN}=6.9\text{mA}$ , Test Circuit 2	$130\pm 0.8\text{V}$	(Note2)
	$V_{IN}=16\text{V(D.C.)}$ , $I_O=0.5\text{A}$ Test Circuit 1		
Line Regulation	$V_{IN}=145\sim 170\text{V(D.C.)}$ $I_O=0.5\text{A}$ , Test Circuit 1	$\Delta 2.4\text{V Max}$	
Load Regulation	$V_{IN}=16\text{V(D.C.)}$ $I_O=0.25\text{A}\sim 0.5\text{A}$ , Test Circuit 1	$\Delta 0.5\text{V Max}$	
Output Voltage Temperature Coefficient	$V_{IN}=16\text{V(D.C.)}$ , $I_O=0.5\text{A}$ $T_c=-20^{\circ}\text{C}\sim +100^{\circ}\text{C}$	$\pm 0\text{mV}/^{\circ}\text{C Typ}$	
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 : $h_{FE}$	$I_C=1.0\text{A}$ , $V_{CE}=4\text{V}$	1500~6500	
Power Transistor Thermal Resistance : $\theta_{jc}$	between Junction and frame	1.8 $^{\circ}\text{C}/\text{W}$	
In-Gut Leak Current : $I_{CEO}$	3, 4 Terminal ( $V_{CE}=200\text{V}$ ) 1, 2 Terminal : Open	100 $\mu\text{A}$ Max	
Output (Emitter) - Base Reverse Breakdown : $I_{EB(S/B)}$	$t=65\text{ms}$	300mA Min	

(Note1) Recommended Case Temperature :  $T_{op}(T_c)=100^{\circ}\text{C}$  Max.

(Note2) Fixed Output Voltage is prescribed on 5 sec after Switch ON. In case a doubt should be occurred, Fixed Output Voltage is prescribed in Test Circuit 2.

Recommended screwing torque : 6-8 kg · f · cm

Recommended Silicone Grease :

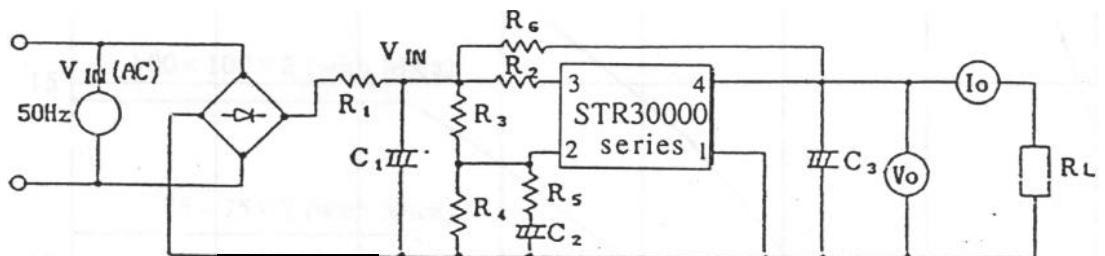
G-746 (Shinetsu Chemical Industries Ltd.)

YG6260 (Toshiba Silicone Co.; Ltd.)

SC1 02 (Toray Silicone Co., Ltd.)

Since this product is developed and produced for general application, radiation ray design has not been considered.

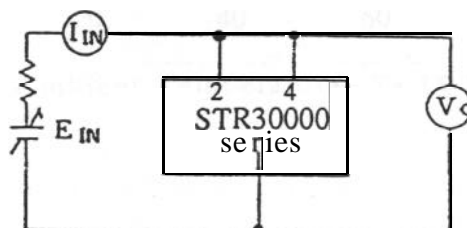
### Test Circuit 1



$R_1:1.0\Omega$ ,  $R_2:2.2\Omega$ ,  $R_3:12K\Omega$ ,  $R_4:330K\Omega$ ,  $R_5:47\Omega$ ,  $R_6:220\Omega$

$C_1:470\mu\text{F}$ ,  $C_2:33\mu\text{F}$ ,  $C_3:33\mu\text{F}$

### Test Circuit 2



# STR30000 Series Derating Curves

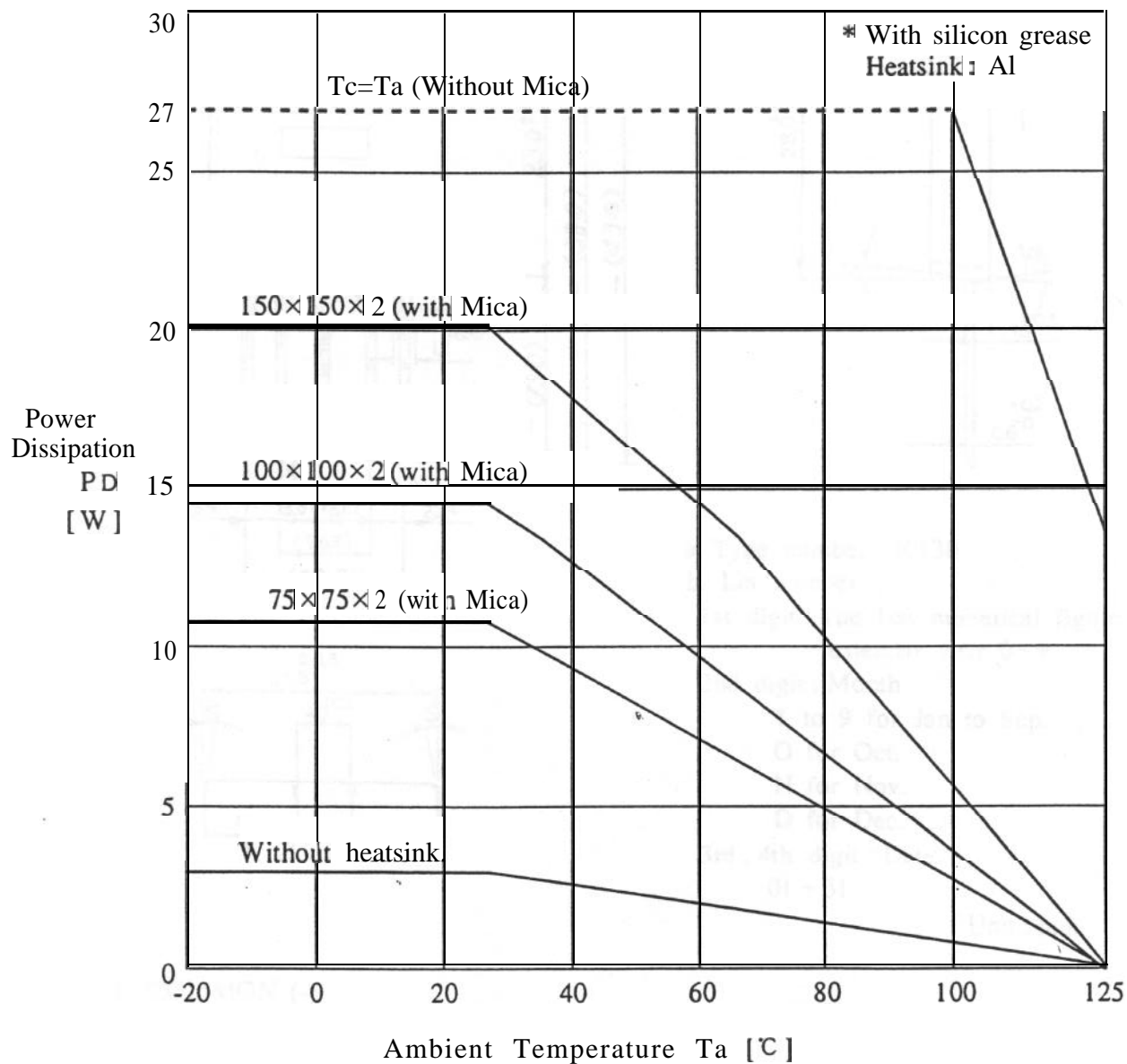
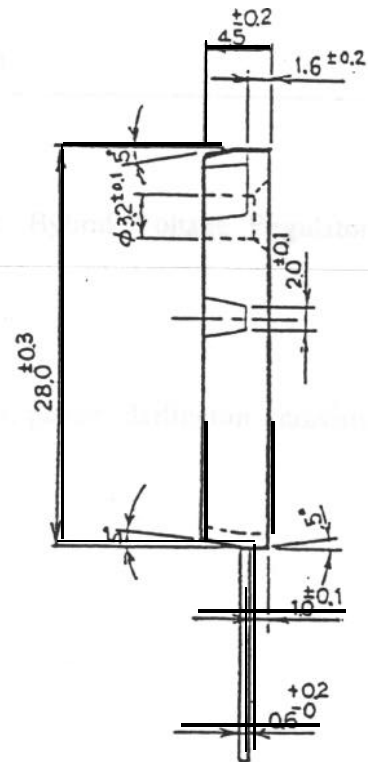
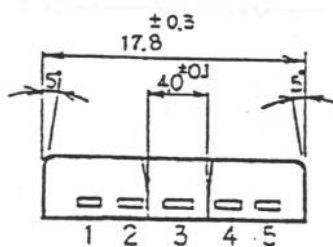
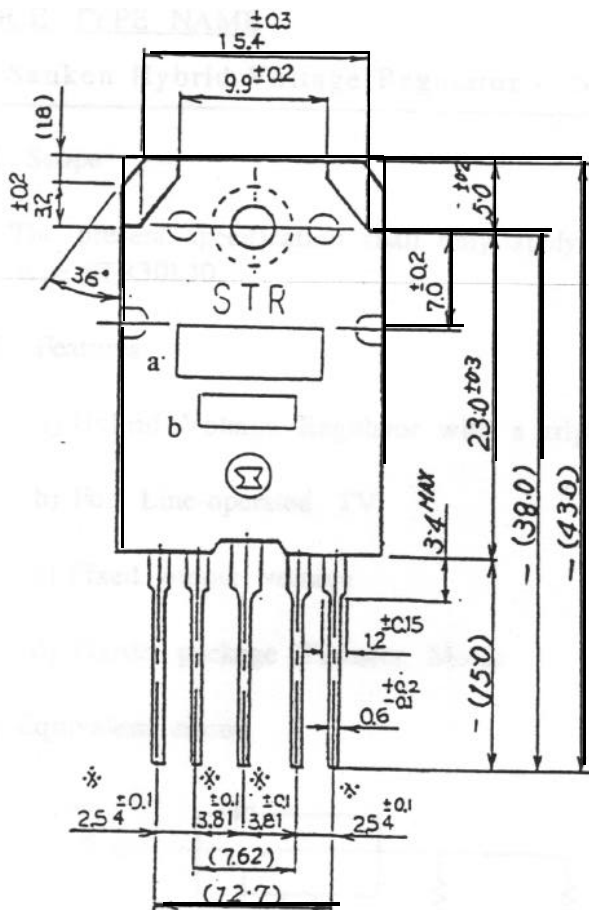


Fig-1 Outline Drawings, Dimensions and Pin Connections  
[Sanken lead forming LF500]



- a. Type number : 30130  
b. Lot number

1st digit : The last numerical figure of  
calendar year. 0 to 9

2nd digit : Month

1 to 9 for Jan. to Sep.

0 for Oct.

N for Nov.

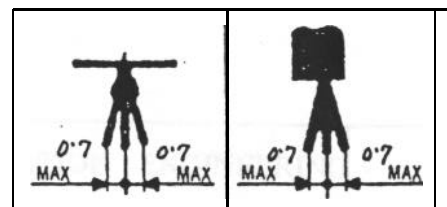
D for Dec.

3rd , 4th digit : Date

01 ~ 31

Unit: mm

1. COMMON (-)
2. BASE
3. IN PUT
4. OUT PUT
5. BLANK



Remarks : The dimensions marked ※ is measured at the base of lead wires.