

SPECIFICATION

MESSRS.

DEVICE TYPE NAME

SanKen Hybrid Voltage Regulator - STR30130

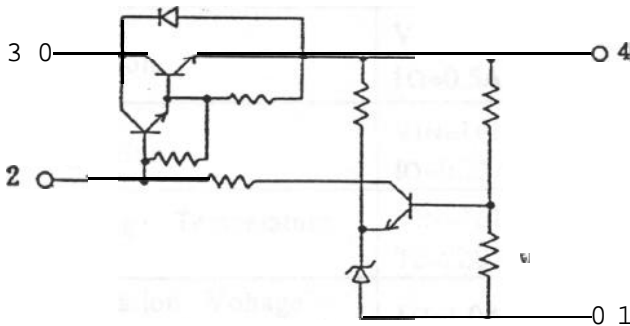
1. scope

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.

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

(Note1)

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

Description	Conditions	Ratings
Fixed Output Voltage	$I_{IN}=6.9\text{mA}$ , Test Circuit 2	$130 \pm 0.8\text{V}$
	$V_{IN}=16\text{V(D.C)}$ , $I_O=0.5\text{A}$ 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	$\pm 0.5\text{V Max}$
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 ( $V_{CE}$ )=200V 1, 2 Terminal : Open	100 $\mu\text{A}$ Max
Output (Emitter) - Base Reverse Breakdown : $I_{EB(S/B)}$	$t=65\text{ms}$	300mA Min

(Note2)

(Note1) Recommended Case Temperature :  $T_{op}(T_c)=100^{\circ}C$  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 sqrewing torque :  $6-8 \text{ kg} \cdot \text{f} \cdot \text{cm}$

Recommended Silicone Grease :

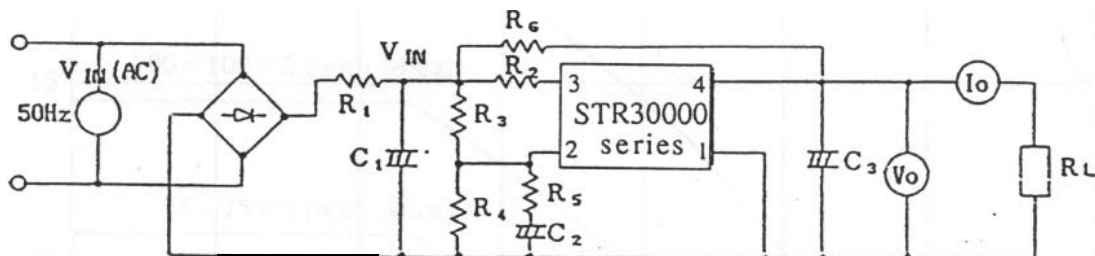
G-746 (Shinetsu Chemical Industries Ltd.)

YG6260 (Toshiba Silicone Co.; Ltd.)

SC1 02 (Toray Silicone Co., Ltd.)

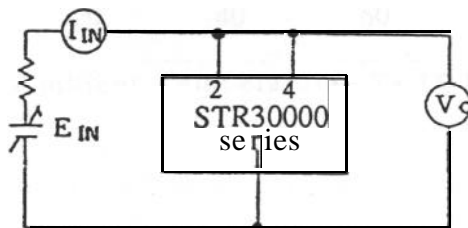
Since this product is developed and produced for general application, radiation ray design has not been considered.

Test Circuit 1



$R_1:1.0\Omega$  ,  $R_2:2.2\Omega$  ,  $R_3:12K\Omega$  ,  $R_4:330K\Omega$  ,  $R_5:47\Omega$  ,  $R_6:220\Omega$   
 $C_1:470\mu F$  ,  $C_2:33\mu F$  ,  $C_3:33\mu F$

Test Circuit 2



**STR30000 Series Derating Curves**

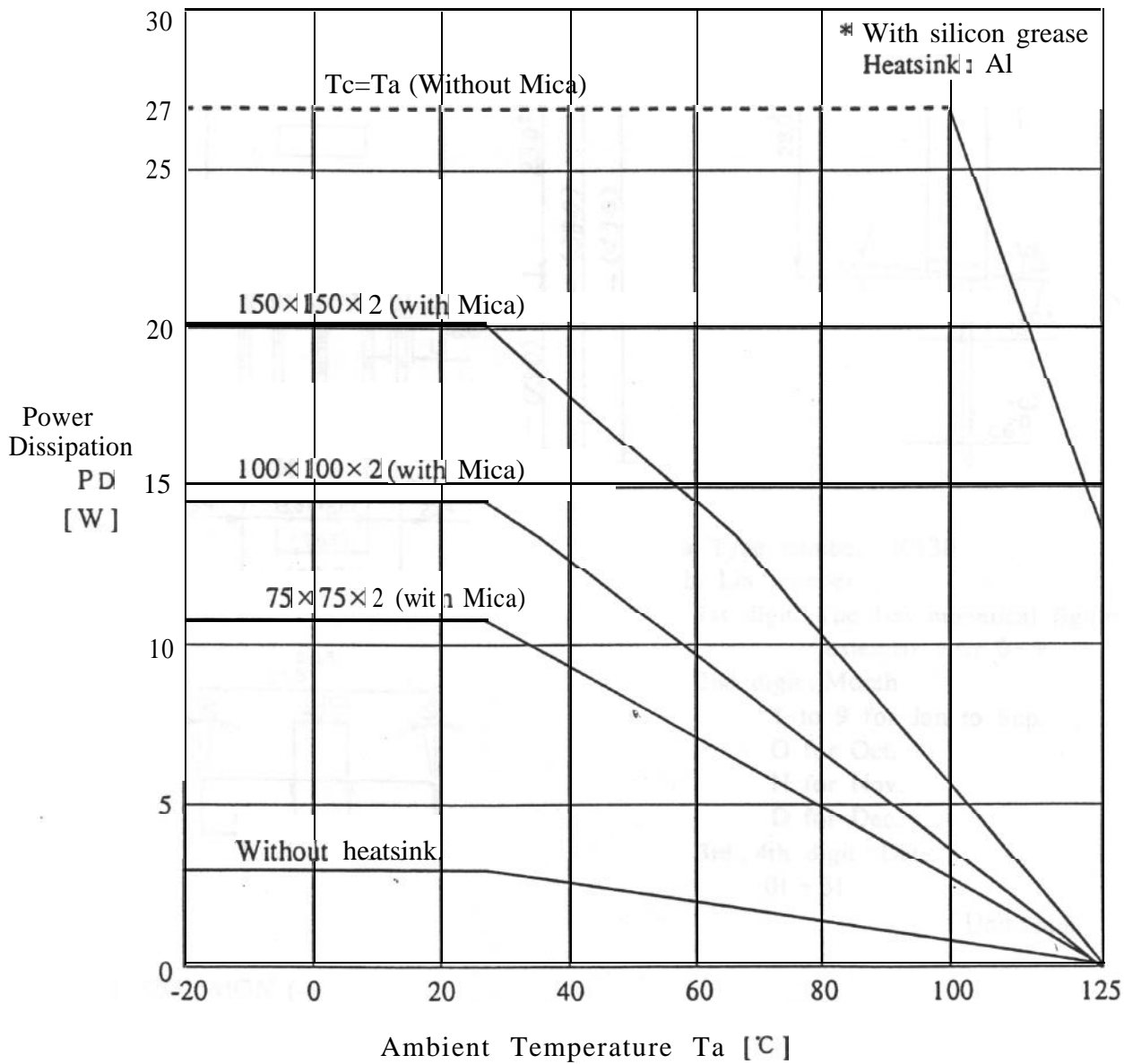
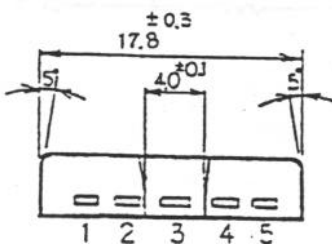
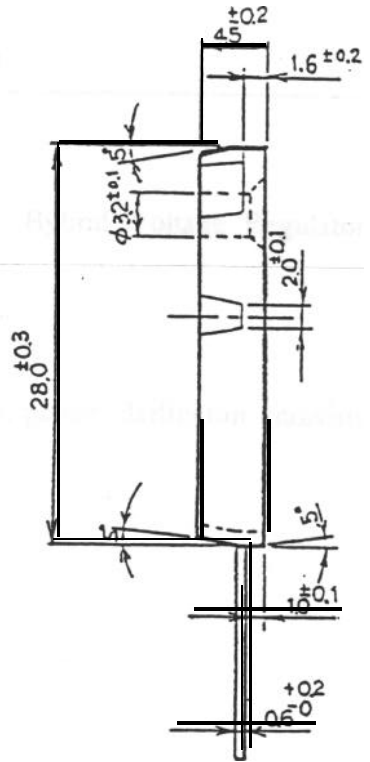
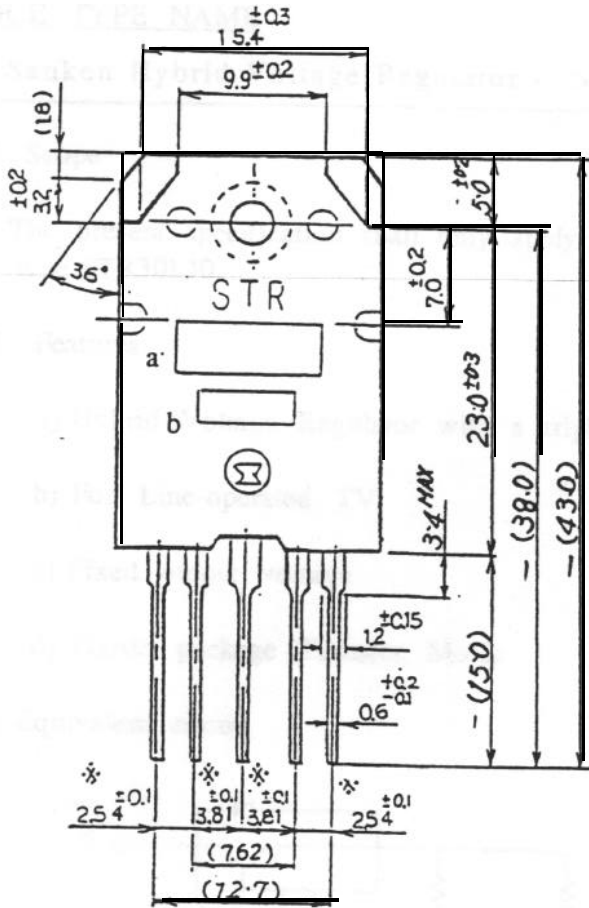


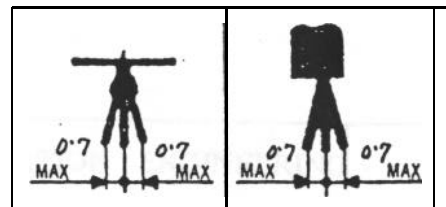
Fig-1 Outline Drawings, Dimensions and Pin Connections  
 [SanKen lead forming LF500]



- a. Type number : 30130  
 b. Lot number  
 1st digit : The last numerical figure of calendar year. 0 ~ 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.