

SANKEN LINEAR REGULATOR HYBRID IC

Type : STR-D3000

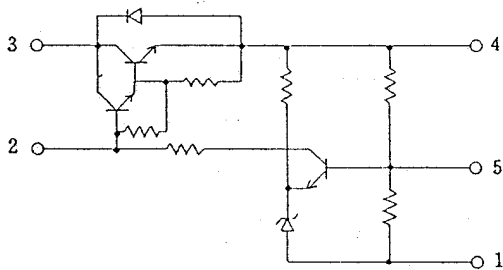
1. Scope:

The present specifications shall only apply to Sanken Linear Regulator Hybrid IC, STR-D3000.

2. General:

- 2.1 Category: Hybrid IC
- 2.2 Construction: Hybrid IC based on the Silicon 3-layer Planar Transistor. Drive Circuit and Reference Voltage Circuit are built in.
- 2.3 Application: For off-line TV power supply.
- 2.4 Output voltage is fixed.
- 2.5 Full mode (isolated) package.

3. Equivalent Circuit



- 1. Common (-)
- 2. Base
- 3. Input
- 4. Output
- 5. Blank (Output Cont : STR-D3010 only)

4. Appearance and Outline Drawings:

- 4.1 Appearance
The body shall be clean and shall not bear any stain, rust or flaw.
- 4.2 Outline Drawings
Refer to Page 7.

5. Marking

The type number and lot number shall be legitimately be marked by laser printing. Refer to Page 7.

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6. Ratings

6.1 Maximum Rating ($T_a=25^\circ\text{C}$)

Description	Symbol	Rating	Unit	Conditions
Peak Input Voltage	V_{IN}	200	V	
Output Current	I_o	1.0	A	
Power Dissipation	P_D	20	W	
Operating Temperature	T_{OP}	-20~+125	$^\circ\text{C}$	※1
Storage Temperature	T_{STG}	-30~+125	$^\circ\text{C}$	
Junction Temperature of the Power Transistor	T_j	150	$^\circ\text{C}$	

※1: Recommended Temperature $T_{OP}(T_c)=100^\circ\text{C}$ (T_c denotes the temperature of inner frame)

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

Description		Symbol	Rating	Unit	Condition
Set Output Voltage	Measured Circuit#1		Refer to P.3	V	※2
	Measured Circuit#2				
Output Voltage Variation 1 (vs. Input Voltage) Measured Circuit #1			Refer to P.3	V	
Output Voltage Variation 2 (vs. Input Voltage) Measured Circuit #1			Refer to P.3	V	
Temperature Coefficient of Output Voltage			Refer to P.3		
Saturation Voltage between Input and Output		$V_{CE(SAT)}$	1.5 MAX.	V	$I_C = 1A, I_B = 10mA$
DC Current Gain		h_{FE}	1500~6500		$I_C = 1A, V_{CE} = 4V$
Cut-off Current between Input and Output		I_{CEO}	100 MAX.	μA	$V_{CE} = 200V$
Thermal Resistance of Power Transistor		θ_{J-C}	1.8	$^\circ\text{C/W}$	Between Junction and the internal of frame
Emitter-Base Current		$I_{EB(S/B)}$	300 MAX.	mA	$t = 65 \text{ ms}$

※2: The set output voltage denotes the voltage appears after power is turned on and paused for 5 seconds. When there is any question on the output voltage, it can be determined by the measured circuit #2.

Date: Oct. 1, 1990

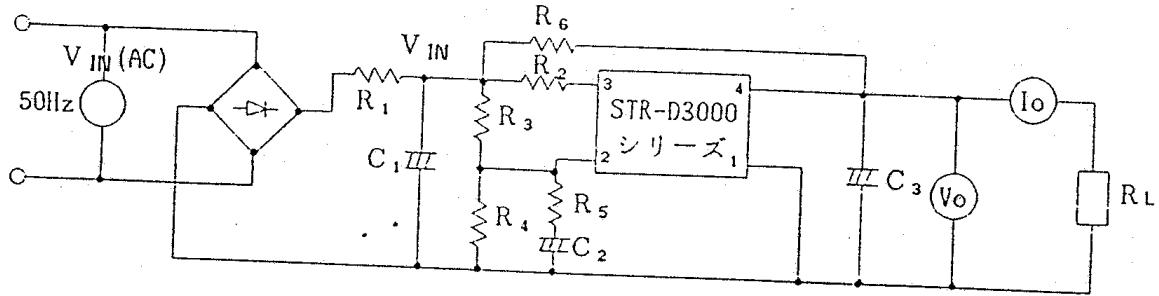
Specification No.: SSE-16436E

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7. Electrical Characteristic

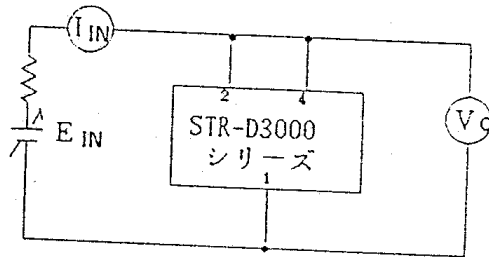
Description	Part Number	STR-D3010	STR-D3012	STR-D3013	STR-D3015	STR-D3020	STR-D3023	STR-D3025	STR-D3030	STR-D3034	STR-D3035
Ratings		110±0.8V	112±0.8V	113±0.8V	115±0.8V	120±0.8V	123±0.8V	125±0.8V	130±0.8V	134±0.8V	135±0.8V
	Measured Circuit #2	I _{IN} = 5.9 mA				I _{IN} = 7.2 mA		I _{IN} = 6.9 mA			
Measured Circuit #1		V _{IN} = 134 V(DC), I _o = 0.5 A									
Ratings		Δ 2.4 V									
Measured Circuit #1		V _{IN} = 125 ~ 150 V(DC)									
		I _o = 0.5 A									
Ratings		Δ 0.5 V									
Measured Circuit #1		V _{IN} = 134 V(DC)									
		I _o = 0.25 ~ 0.5 A									
Ratings		± 0 mV/°C typ									
Measured Circuit #1		V _{IN} = 134 V(DC), I _o = 0.5 A									
		I _o = -20 ~ 100 °C									
Circuit Constant of measured 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		R ₃ = 12 KΩ R ₄ = 330 KΩ		

Measured Circuit #1



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

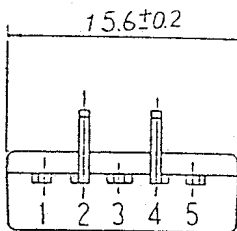
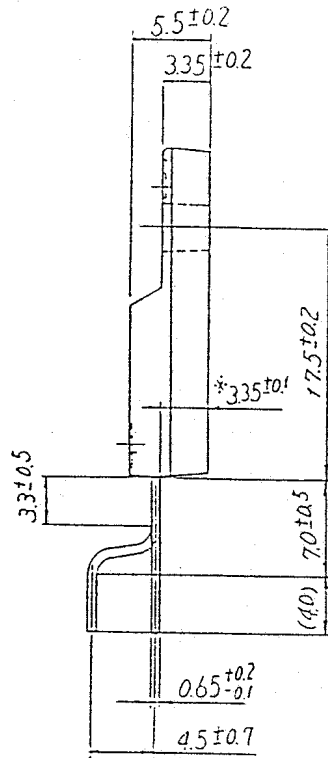
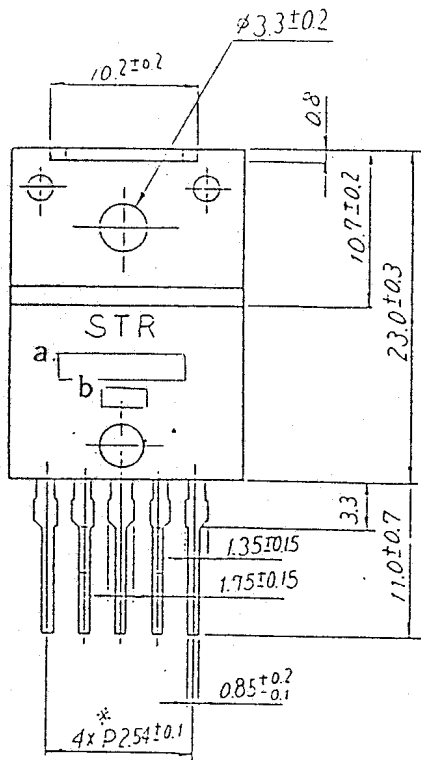
Measured Circuit #2



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1. Common (-)
2. Base
3. Input
4. Output
5. Blank (Output Cont...STR-D3010 only)

a. Part Number : D3000 series

b. Lot display :

1st. digit : Last number of ~~the~~ year

2nd. digit : Month

1~9 : Jan.~Sept.

0 : October

N : November

D : December

3rd. and

4th digits : Date 01~31 in a month

Unit : mm