

Sanken Switching Regulator Hybrid IC

Type : STR59041

1. Scope:

The present specification shall only apply to Sanken Switching Regulator Hybrid IC, type STR59041.

2. Appearance and Configuration

2-1. Appearance:

The body shall be clean and shall not bear any stain, rust or flaw.

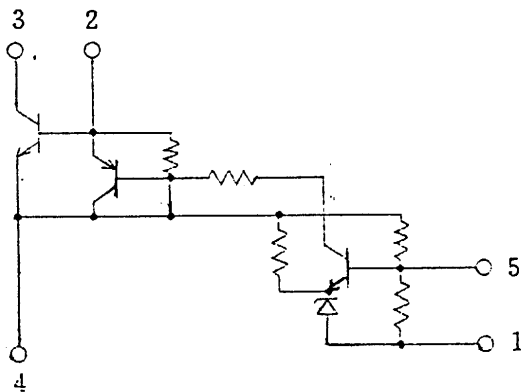
2-2. Appearance, Outline Dimensions, Equivalent Circuit and Basic Application Circuit

Refer to Fig. 1

2-3. Markings

The type number and lot number shall be legitimately be marked in white.

3. Equivalent Circuit



- 1. V_{OUT} SENSE(-)
- 2. Base Drive (B)
- 3. Input (C)
- 4. Earth (E)
- 5. V_o Cont.

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4. Ratings

4-1. Absolute Maximum Ratings (Ta=25°C)

Description	Symbol	Unit	Rating	
Peak Input Voltage	V_{IN}	V	850	
Input Current	I_{IN}	A	6 (Pulse 12A)	
Power Dissipation	P_D	W	27 (Tc=100 °C)	
Operating Temperature	T_{OP}	°C	-20~+125 (Tc)	*1
Storage Temperature	T_{STG}	°C	-30~+125	
Junction Temperature	T_J	°C	+150	

4-2. Electrical Characteristics (Ta=25°C) (Per Fig. 1-1)

Description	Symbol	Unit	Rating			Conditions	
			MIN.	TYP.	MAX.		
Set Output Voltage	V_o	V	41.3	41.8	42.3	$I_{IN}=7mA$, Test Circuit #1	
Temperature Coefficient of Output Voltage		mv/°C	±2			Tc=-20~+100°C, $I_{IN}=7mA$ Test Circuit #1	
Power Transistor Characteristic	Collector Saturated Voltage	$V_{CE(SAT)}$			0.4	$I_C = 3A$ $I_B = 0.6A$	
	DC Current Gain	h_{FE}	15		38	$V_{CE}=4V$, $I_C=1A$	
	Collector Cutoff Current	I_{CEX}	mA			1 $V_{CE}=850V$ $V_{BE}=-1.5V$	
	Base-Emitter Saturated Voltage	$V_{BE(SAT)}$	V			1.5 $I_C = 3A$ $I_B = 0.6A$	
	Thermal Resistance	θ_{J-C}	°C/W	1.8			Upper of Junction Stem
	Switching Time	t_s t_f	μs μs			11 0.5	Test Circuit #2 Test Circuit #2
Output Voltage *2		V	110±1.5			$V_{IN}=220V$, $I_o=0.9A$	
Line Regulation 1 (vs. Input Voltage) *2		V	Initial Value ± 1V			$V_{IN}=180\sim 280V$ $I_o = 0.9A$	
Line Regulation 2 (vs. Output Current) *2		V	Initial Value ± 2V			$V_{IN}=220V$ $I_o = 0.55\sim 0.9A$	

*1:Suggested Case Temperature Top (Tc) = 100 °C.

*2:Please refer to the Application Circuit.

Date: August 20, 1990

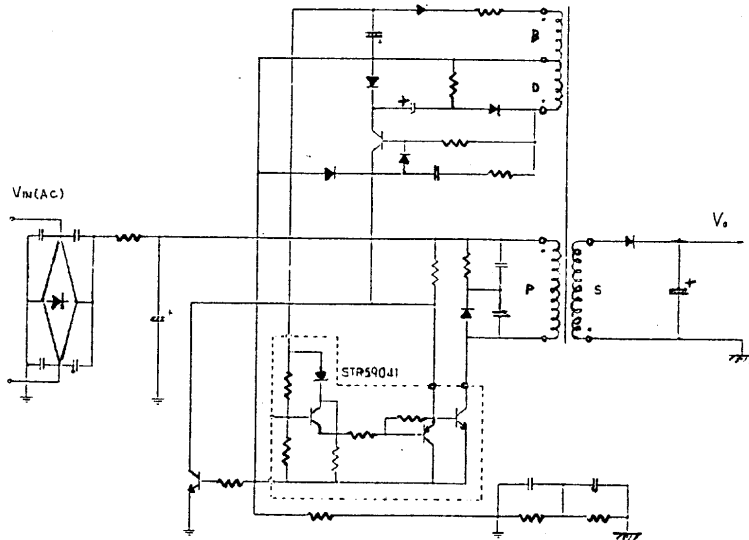
Specification No.: SSE-15921E

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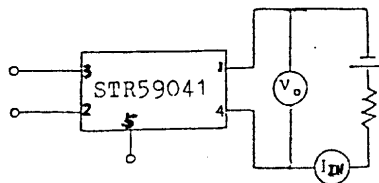
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The Output Voltage can be determined by the number of winding wires D and S of transformer. The reference value is $V_o=110V$.

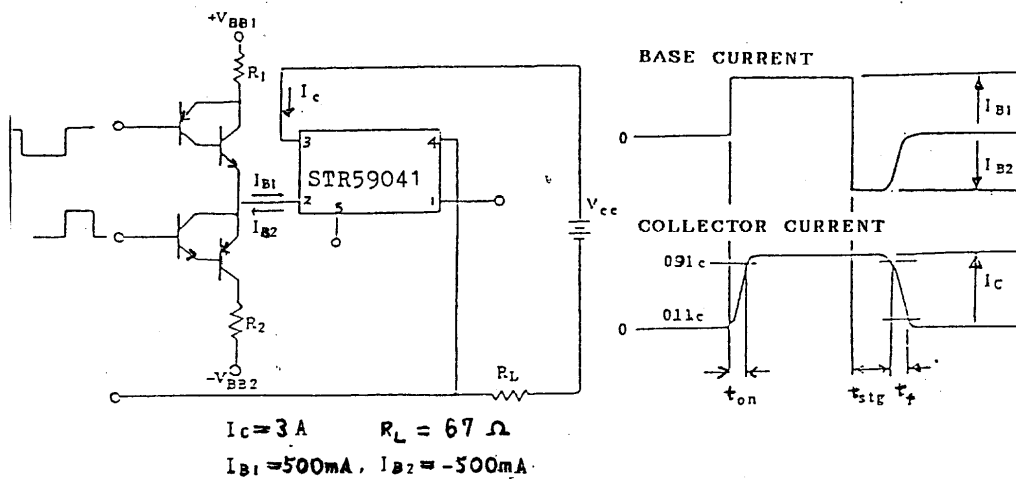
Application Circuit



Test Circuit #1



Test Circuit #2

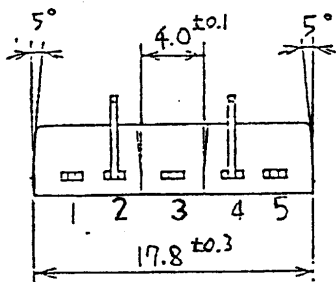
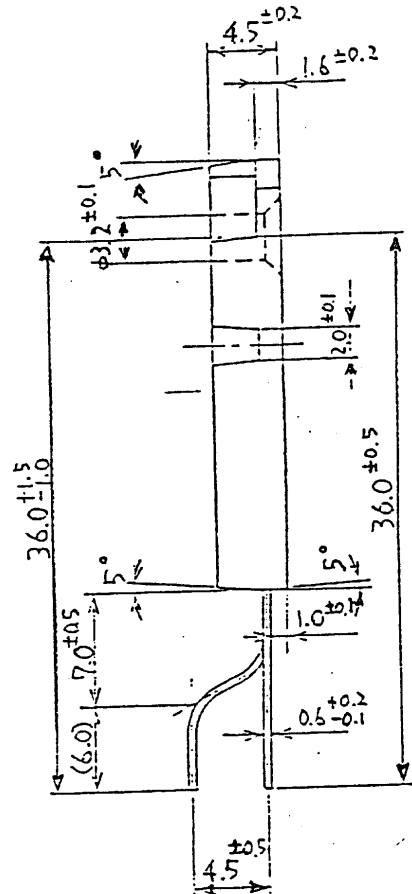
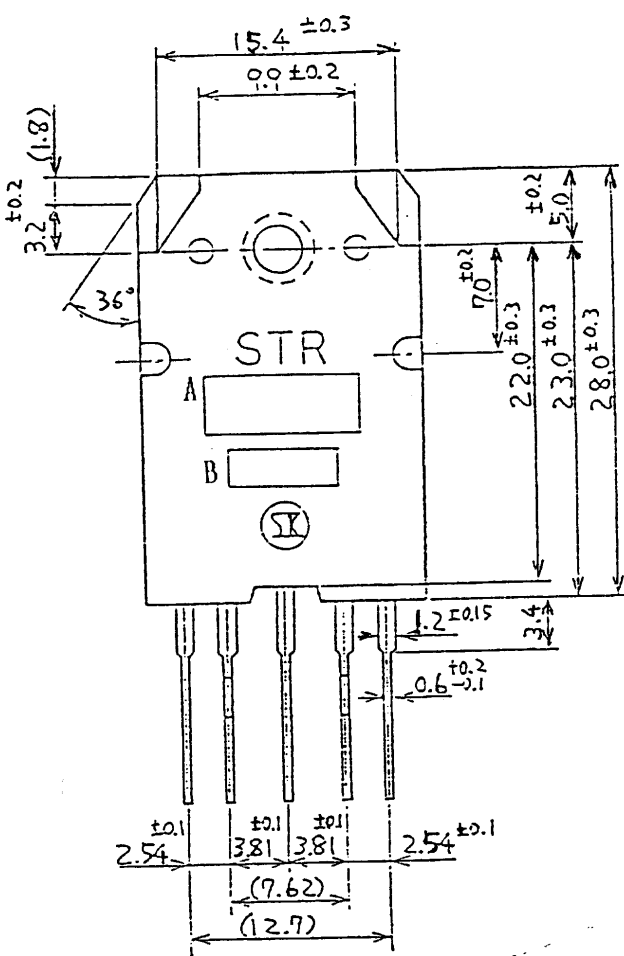


4-4. Suggested Silicone Grease

- G-746: SHIN-ETSU CHEMICALS
- YG6260: TOSHIBA SILICONE
- SC102: TORAY SILICONE

5. Marking and Dimension

Fig. 1



Pin Connection

- ① - V_{OUT} SENSE
- ② - Base Drive (B)
- ③ - Input (C)
- ④ - Earth (E)
- ⑤ - V_o Cont.

Unit: mm

A. Part Number: STR59041

B. Lot Number:

1st digit - Last digit of Year

2nd digit - Month

Jan. ~ Sept.: 1 ~ 9

Oct.: 0

Nov.: N

Dec.: D

3rd & 4th digit - Day (01 ~ 31)