

ATTN: Paul

STR-D SERIES

SANKEN HYBRID VOLTAGE REGULATOR MODULE

PART NUMBER STR-D10057

Date: February 22, 1988

Specification No.: SSE16935

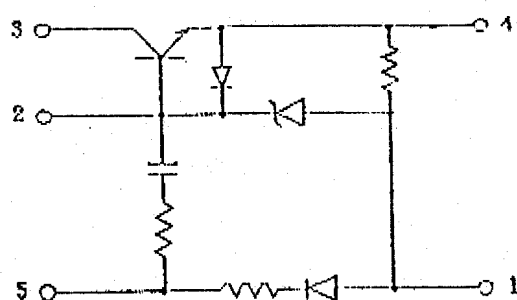
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To	From
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1. Features:

- a. Hybrid Voltage Regulator Module incorporated triple diffused planar transistor chips.
- b. Transfer Molded.
- c. For TV Switch Mode Power Supply.
- d. Fixed Output Voltage.

2. Equivalent Circuit



1. V_{OUT} ()
2. BASE
3. INPUT (C)
4. EARTH (E)
5. DRIVE INPUT

3. Outline Drawing, Marking, and Pin Connections

Refer to Figure 1.

4. The type number and lot number shall be legibly marked by white color.

5. Absolute Maximum Ratings

Description	Symbol	Unit	Rating
Maximum Peak Input Voltage	V_{IN}	V	800
Input Current	I_{IN}	A	1.5 (Pulse 3.0)
Maximum Power Dissipation	P_D	W	20 ($T_C = 100^\circ C$) (* NOTE 1)
Operating Temperature	T_C	$^\circ C$	-20 - +125 (T_{C2}) (* NOTE 2)
Storage Temperature	T_{stg}	$^\circ C$	-30 - +125
Power Transistor Junction Temperature	T_J	$^\circ C$	+150
Output Current	I_O	A	0.4 ($V_O = 12V$)

* NOTE 1: T_{C1} - Temperature was measured directly on the plastic case under transistor die.

* NOTE 2: Recommendation case temperature T_{OP} (T_{C2}) = 100°C Max.
(T_{C2} : Internal flame temperature)

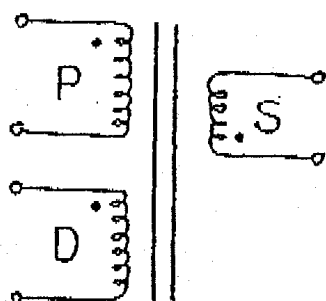
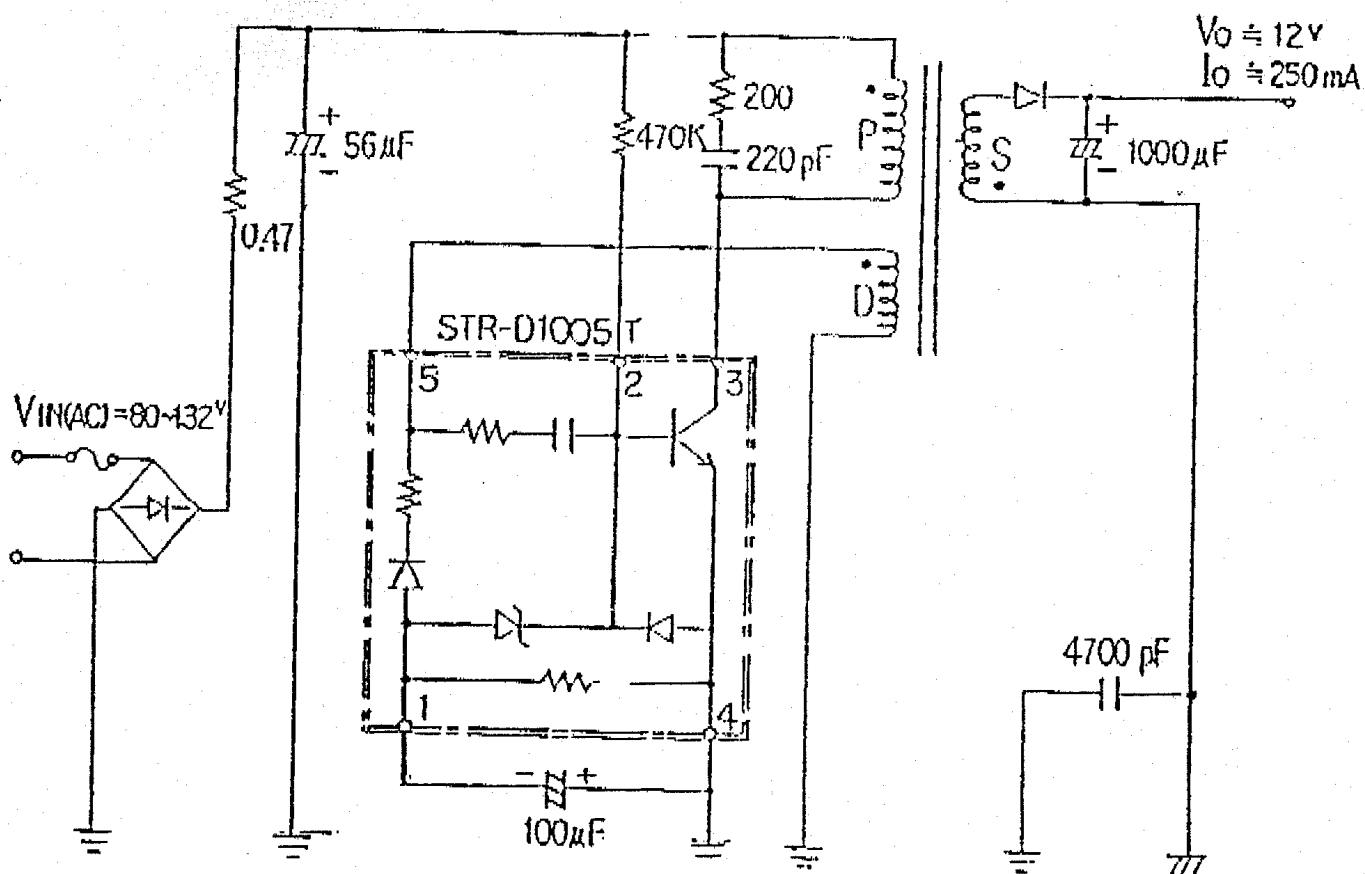
Electrical Characteristics

Characteristics	Description	Symbol	Conditions	Ratings
	Fixed Reference Voltage (Detecting Voltage)	VREF	I _{IN} = 17mA Measurement Circuit 1	5.35 ± 0.20V
	Collector - Emitter (Saturation Voltage)	VCE(SAT)	I _C = 300mA, I _B = 50mA	1.0V Max.
	DC Gain	hFE	VCE = 4V, I _C = 100mA	15 Min/45 Max
	Collector Cut Off Current	ICEX	VCE = 800V, VBE = -1.5V	1.0mA Max
	Base Emitter Saturation Voltage	VBE(SAT)	I _C = 300mA, I _B = 50mA	1.5V Max
	Thermal Resistance	θ _{jc}	Between Junction & Stem Upper Surface	1.8 °C/W Max
	Switching Time		See Test Circuit 2	<div> <div>t_s</div> <div>7μsec Max</div> </div> <div> <div>t_r</div> <div>1.0μsec Max</div> </div>

Suggested Silicone Grease

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

7. Application Circuit



CORE SIZE : EE-16

GAP(CENTER) : 0.2mm

$L_P \approx 6.4mH$

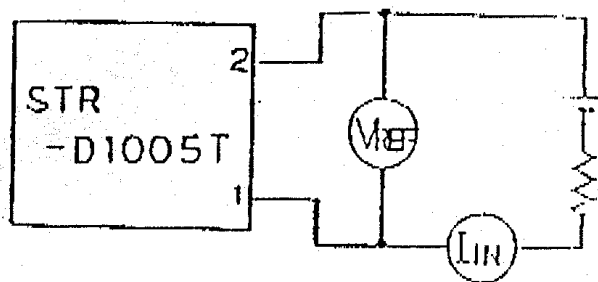
P : $\phi 0.18$ 220 T

D : $\phi 0.18$ 9 T

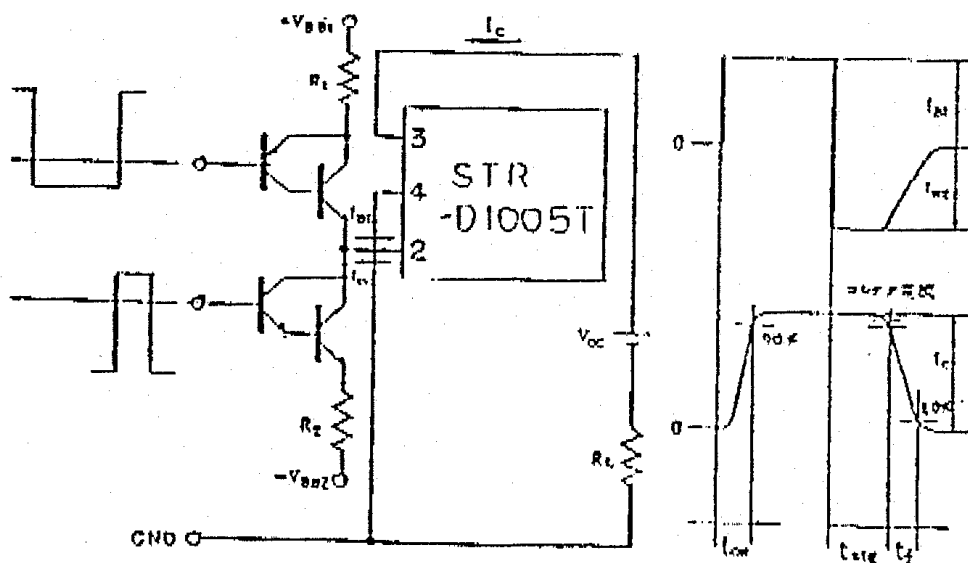
S : $\phi 0.26$ 21 T

OUTPUT VOLTAGE V_O CAN BE VARIED BY CHANGING TRANSFORMER TURN RATIOS.

Measurement Circuit 1.



Measurement Circuit 2.



$$I_C = 300 \text{ mA} \quad R_L = 333 \Omega$$

$$I_{B1} = 50 \text{ mA} \quad I_{B2} = 100 \text{ mA}$$

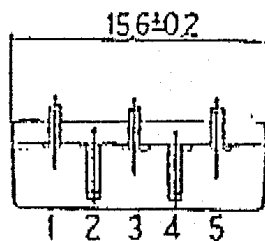


FIGURE 1