

ATTN: Paul

STR-D SERIES

SANKEN HYBRID VOLTAGE REGULATOR MODULE

PART NUMBER STR-D10057

Date: February 22, 1988

Specification No.: SSE16935

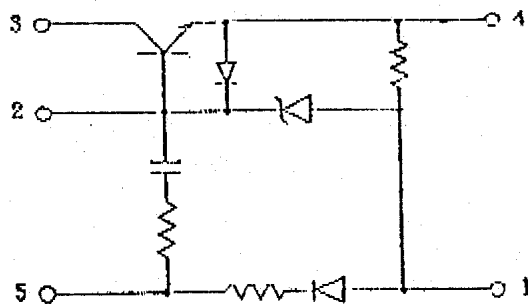
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To	From
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1. Features:

- Hybrid Voltage Regulator Module incorporated triple diffused planar transistor chips.
- Transfer Molded.
- For TV Switch Mode Power Supply.
- 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.

- 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 ($T_{c_1} = 100^{\circ}\text{C}$) (* NOTE 1)
Operating Temperature	T_c	$^{\circ}\text{C}$	-20 - +125 (T_{c_2}) (* NOTE 2)
Storage Temperature	T_{stg}	$^{\circ}\text{C}$	-30 - +125
Power Transistor Junction Temperature	T_J	$^{\circ}\text{C}$	+150
Output Current	I_o	A	0.4 ($V_o = 12\text{V}$)

* NOTE 1: T_{c_1} - Temperature was measured directly on the plastic case under transistor die.

* NOTE 2: Recommendation case temperature T_{c_1} (T_{c_2}) = 100°C Max.
(T_{c_2} : Internal flame temperature)

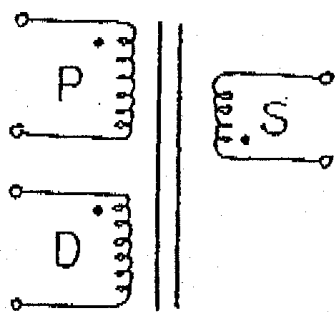
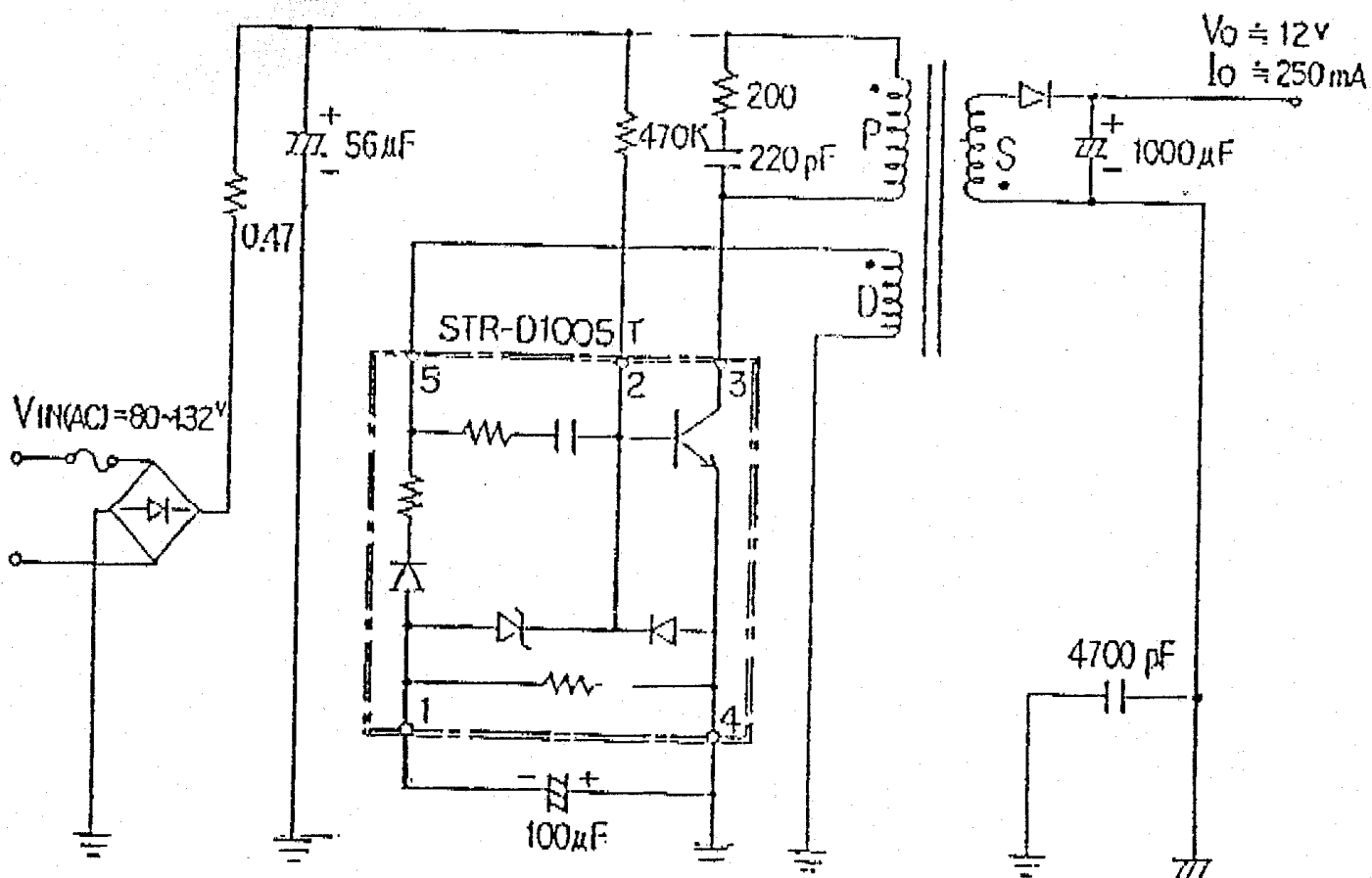
Electrical Characteristics

Characteristics	Description	Symbol	Conditions	Ratings
	Fixed Reference Voltage (Detecting Voltage)	V _{REF}	I _{IN} = 17mA Measurement Circuit 1	5.35 ± 0.20V
	Collector - Emitter (Saturation Voltage)	V _{CE(SAT)}	I _C = 300mA, I _B = 50mA	1.0V Max.
	DC Gain	h _{FE}	V _{CE} = 4V, I _C = 100mA	15 Min/45 Max
	Collector Cut Off Current	I _{CEX}	V _{CE} = 800V, V _{BE} = -1.5V	1.0mA Max
	Base Emitter Saturation Voltage	V _{BE(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	t _s 7μsec Max
				t _f 1.0μsec Max

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

$L_p \approx 6.4mH$

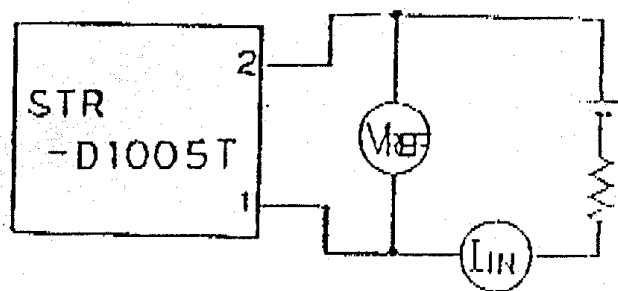
P : ϕ 0.18 220 T

D : ϕ 0.18 9 T

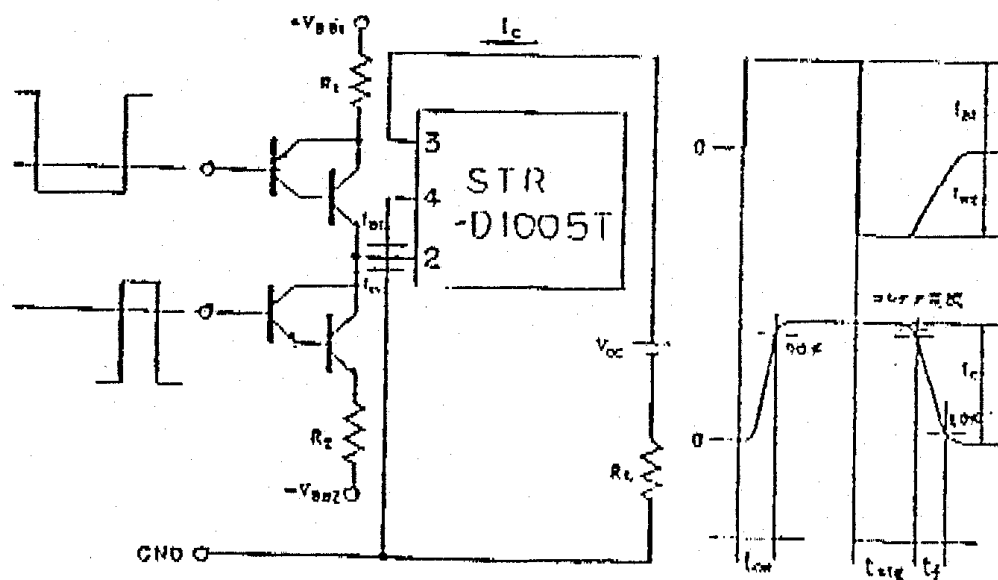
S : ϕ 0.26 21 T

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

Measurement Circuit 1.

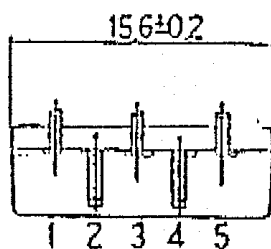
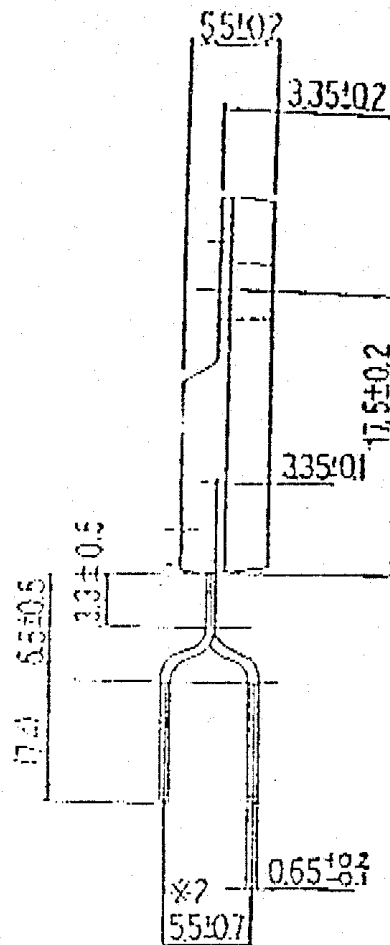
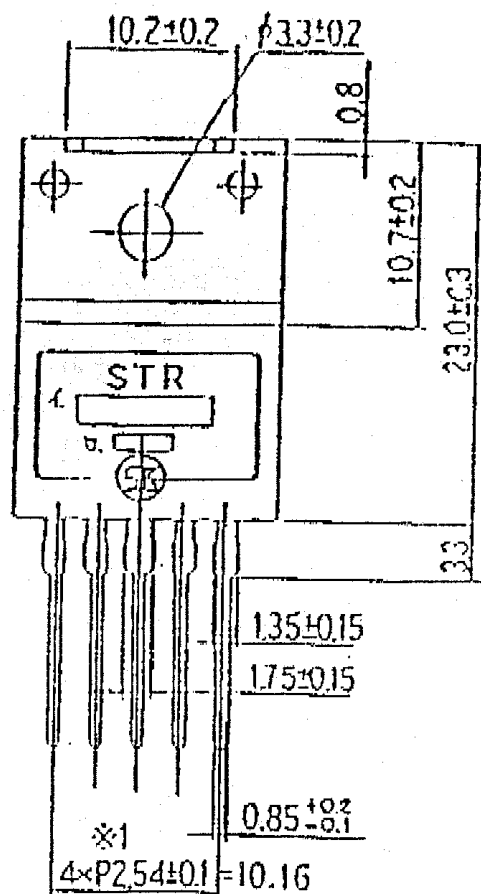


Measurement Circuit 2.



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

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



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

A. Type Number : D1005 T

B. Lot Number

1st letter: The last numerical figure of calendar year

2nd letter: Month (1 to 9 for Jan to Sep.,
0 for Oct.,
N for Nov.,
D for Dec.)

3rd, 4th letter: Date

FIGURE 1