

CHAP 7. POWER SUPPLY CIRCUIT

7-1 GENERAL

Power Supply Circuit consists of 3 DC Voltage and 1 AC Voltage.

Input of Power Supply is for marketing, and is connected to Transformer through the Power Switch, Fuse and others.

Transformer of Power Supply is available for three different of input line voltage by changing the Transformer Tap. For standard transformer Tap is 100/115/230V, 120/220/240 or 200, 220, 250V. $\pm 10\%$ of each input requirement is allowed.

7-2 CIRCUIT CONFIGURATION

Circuit configuration is shown in FIG 7-1.

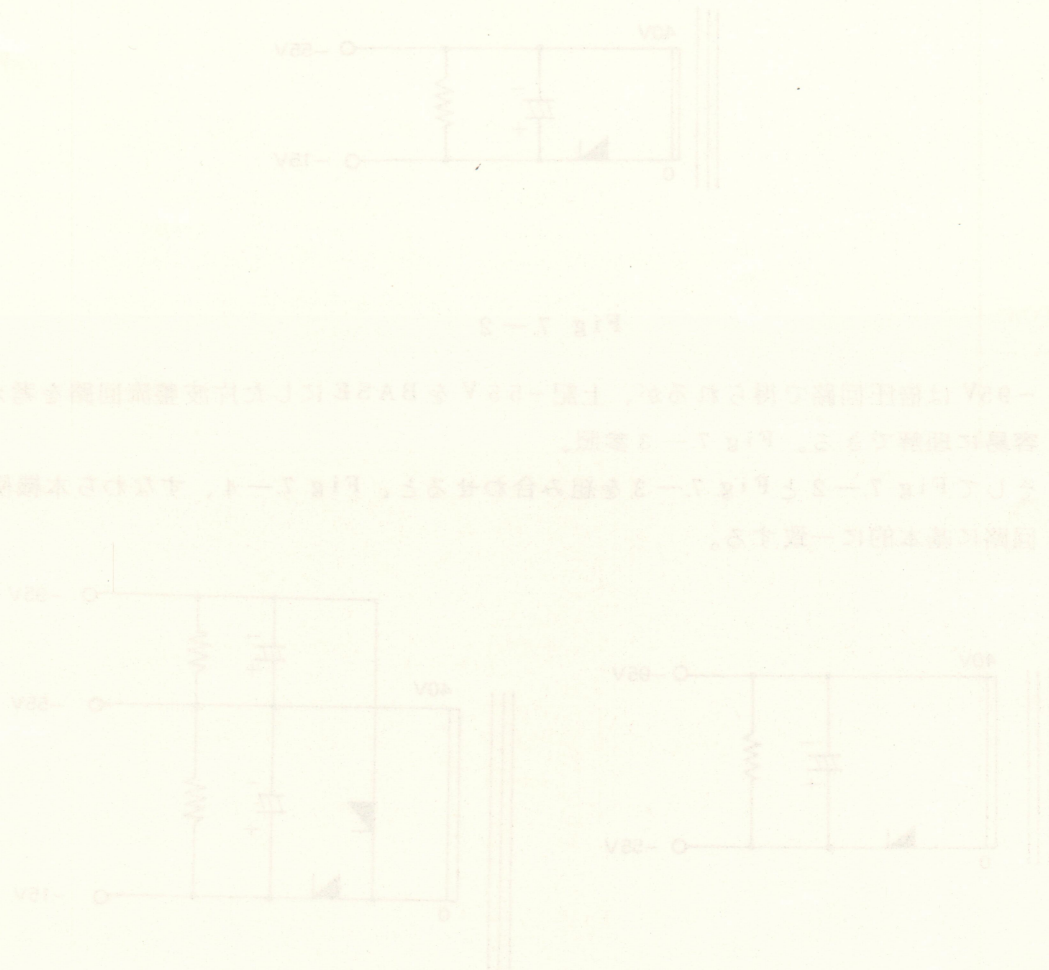


Fig. 7-1

CIRCUIT DESCRIPTION

Fig. 7-1 explains it.

The output voltages are used for the purpose of the followings.

- H1, H2 (AC) - For heating the filament of Numeral Tubes
- VNL (DC) - For displaying the Sign Indicator
- VPP (DC) - For displaying the Numeral Tubes
- VDD (DC) - For logic of and around the LSI

7-3 H1 and H2

H1 and H2 provide heater of Numeral Tubes with 1.4V AC.

See Fig. 6-4.

7-4 VNL(-95V) VPP(-55V)

The circuit (Fig 7-2) which is rectified one-sided waveform of 40VAC secondary output of Transformer and is installed stabilizing capacitor, is supplied -55VDC.

Fig. 7-2

-95V DC is supplied in the voltage double circuit. It may be understood by Fig. 7-3

The combination of Fig. 7-2, and Fig. 7-3 corresponds to the circuit of this machine.

7-5 $V_{DD}(-15V)$

-15V DC is the Power Supply for LSIs, using simple stabilizer.

FIG 7-5 shows a basic circuit and B is a battery supplying -15V and P1 has DC voltage containing ripple wave. Since the voltage of P3 line, i.e., Base of Tr, is always -15V, the emitter always remains to be -15V despite any change of P1 (Tr. Collector).

Fig. 7-5

It is all right to use zener diode instead of B in Fig. 7-5. (See Fig. 7-6).

Also, it becomes more stable if the second transistor is used instead of one transistor as shown in Fig. 7-7.

Fig. 7-6

Fig. 7-7

V_{DD} is composed as the above.