

STABILISED POWER SUPPLIER PS2/90

Introduction

The PS2/90 is a 5.25 V, 2.5-A stabilised power supplier which is intended for use with large integrated logic systems. The unit incorporates foldback current limiting and overvoltage-protection circuits. A star indicator mounted on the front panel displays a white cross when the unit is working.

General Specification

Nominal Mains Input 240 V at 50 Hz

Nominal Output Voltage 5.25 V

Nominal Output Current 2.25 A

Ripple Content at Full Load 2.0 mA p-p

Noise 1 mA p-p

Output Impedance 0.05Ω at d.c., 1.0Ω at 1 MHz

Working Temperature 0 - 45°C

Thermal Stability 1mV/°C

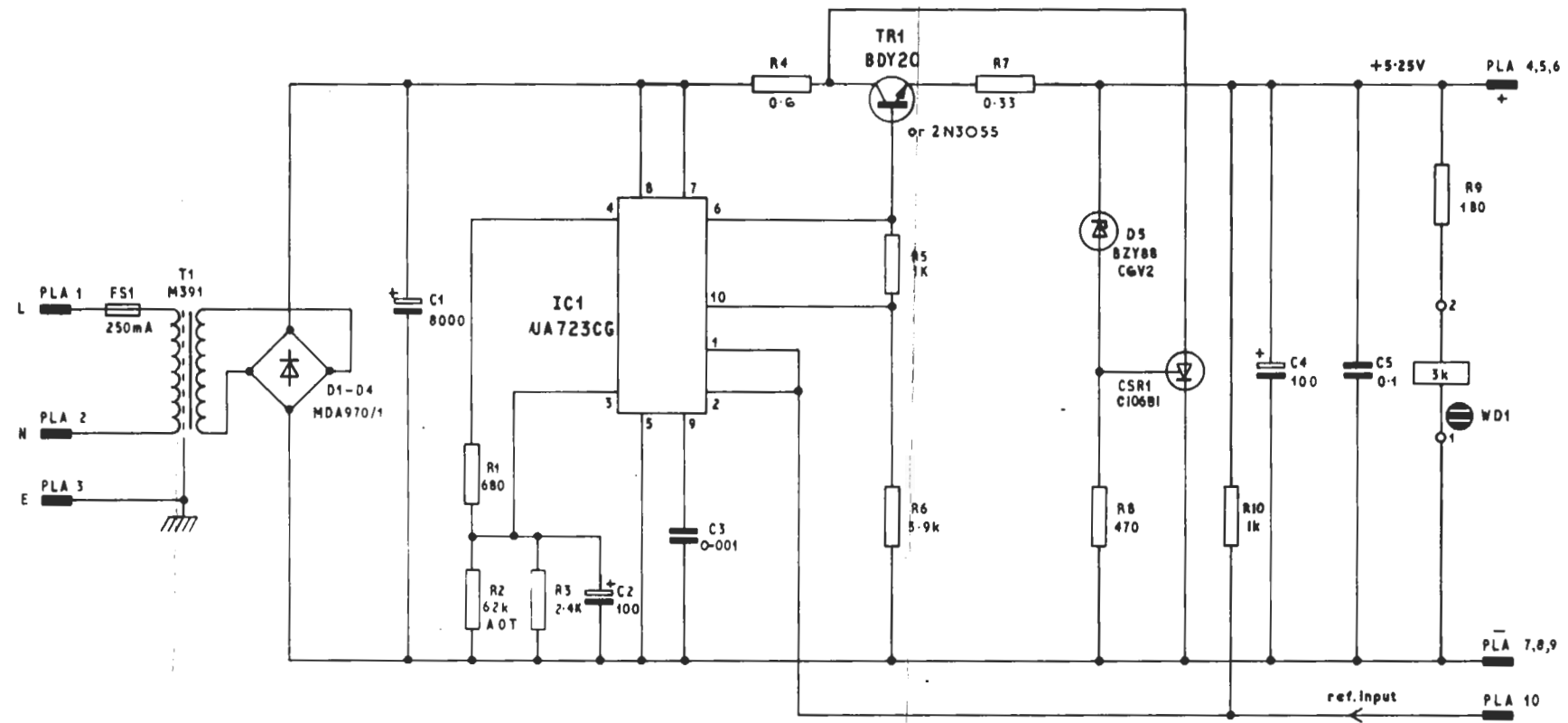
Regulation 0.1% for 7.5% mains variation

Circuit Description

A circuit diagram of the PS2/90 is given in Fig. 1. The output of the full-wave-bridge rectifier D1 - D4 is applied to TR1 and to IC1. Transistor TR1 is a conventional series stabiliser which derives its reference potential from IC1. Integrated circuit IC1 contains a series stabiliser, a reference amplifier and a current limiter. The onset of current limiting (determined by the value of R5) occurs at about 30% overload and the short-circuit current is approximately 25% of the full-load current.

Thyristor CSR1 provides overvoltage protection. If the output voltage rises above 6.2 V, zener diode D5 conducts and triggers CSR1 into conduction also.

To reset the overvoltage protection circuit, the unit must be disconnected from the mains supply for several seconds.



from D25327 A3 iss 3
parts list D25328 A4

PS2/90/1

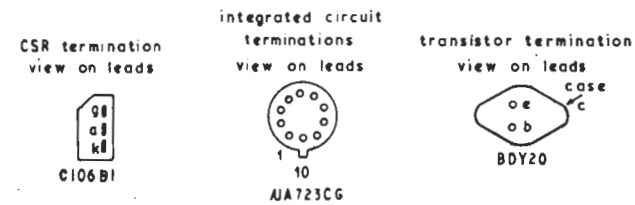


Fig. 1 Circuit of the PS2/90 Stabilised Power Supplier