

1. Description

This reference design describes a general-use, universal-input, 41 W output power (5 V and 20 V) ac-dc power supply design with STR-W6754.

2. Features and specifications

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| <ul style="list-style-type: none"> • AC input: 85 to 264 V ac • Output: 41 W
5 V \pm 5.0% (50 - 200 mA), 20 V \pm 15/-10% (0 - 2 A) • Efficiency: 81% (85 V ac, max. load) | <ul style="list-style-type: none"> • Operation: Quasi-resonant topology IC with bottom-skip function • EMI noise: CISPR Class-B (conductive) • Protection: Overload, overvoltage / open loop (secondary sensing), short circuit |
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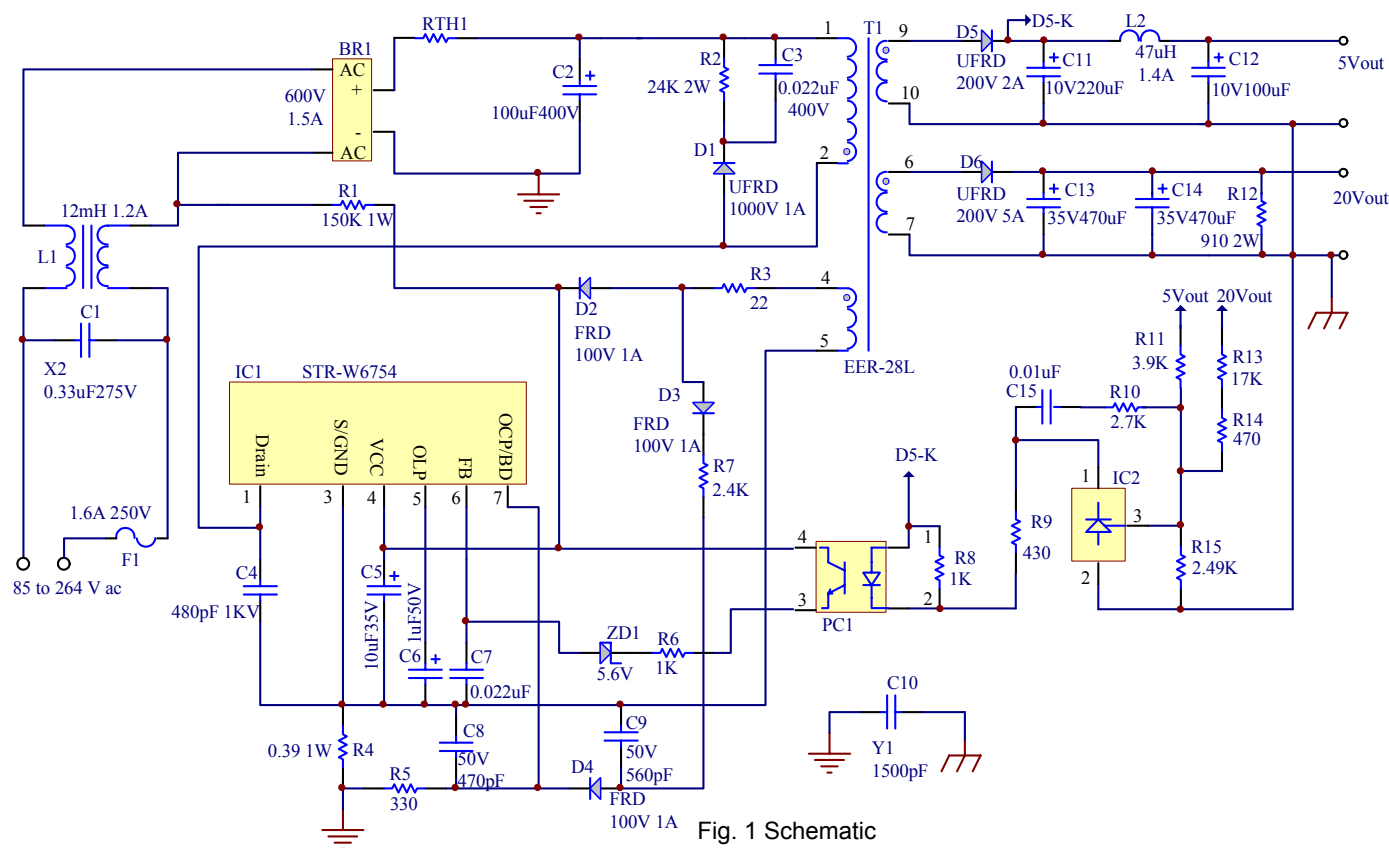


Fig. 1 Schematic

3. Transformer design

- Parameters

Primary inductance: 370 μ H, Al-value:210 nH/N²

- Schematic / structure

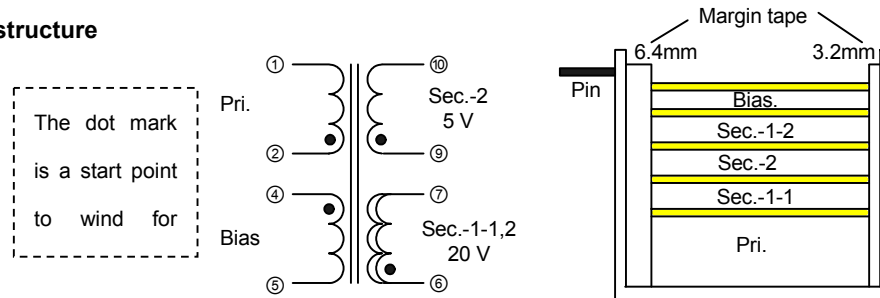


Fig. 2 Transformer schematic / structure

- Material information

Material	Description
Core	TDK PC40 EER-28L or equivalent
Bobbin	TDK BEER-28L-1110CP or equivalent
Primary wire	AWG24 Double-coated magnetic wire
Secondary wire	AWG24 Double-coated magnetic wire (for all the secondary wires)
Bias wire	AWG30 Double-coated magnetic wire

- Wiring information

Symbol	No. of wires	No. of layers	No. of turns	Methodology
Bias	1	1	9	Space winding over the width
Sec. 1-2	2	1	10	Close windings over 1 layer
Sec. 2	4	1	3	Space winding over the width
Sec. 1-1	2	1	10	Close windings over 1 layer
Pri.	1	2	42	Close windings over 2 layer