



AN-1382-/ND/I/SM

High Efficiency - Low Cost LED Driver

Device	Make	Application	Input Voltage	Output Power	PFC	Topology
R2A20134SP	Renesas	AC-DC LED Driver	90-300V ac	Upto 45 W	>0.95	Isolated



❖ SCHEMATIC

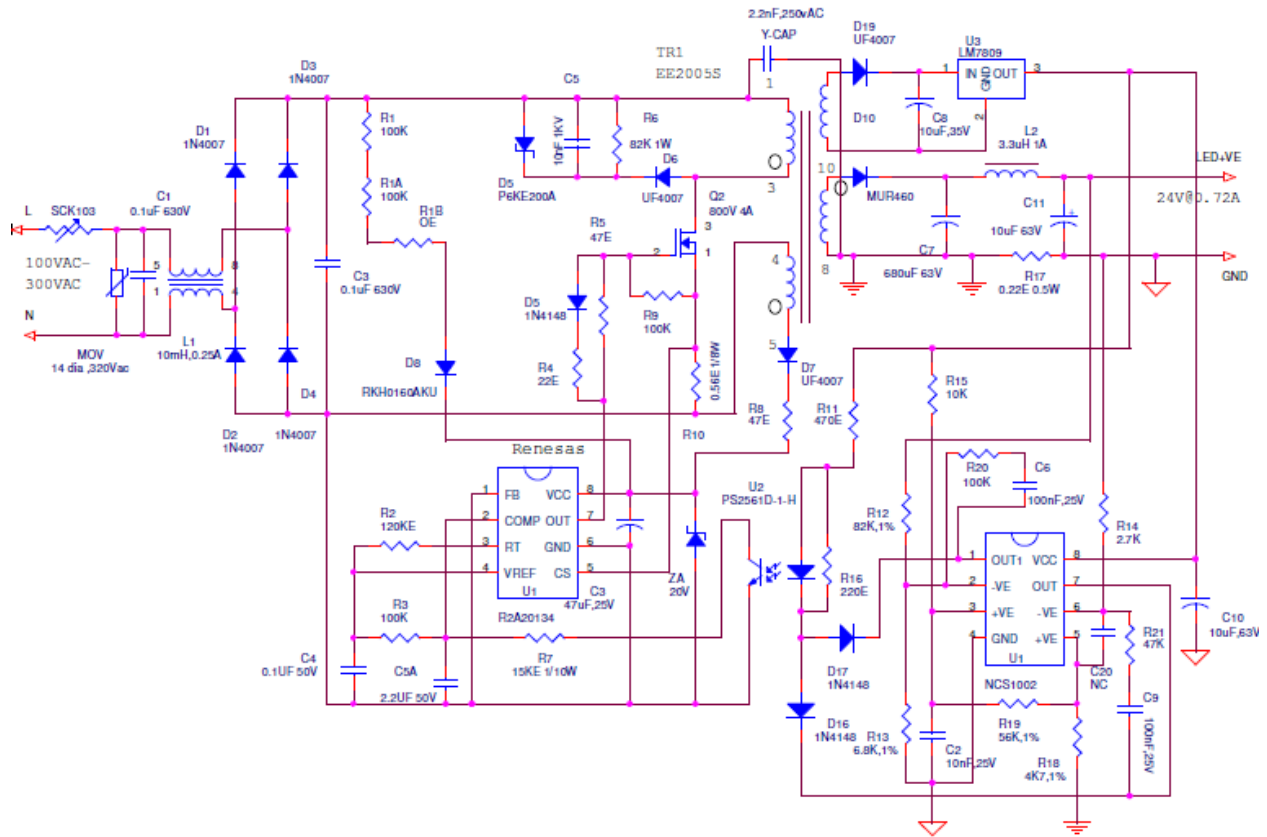
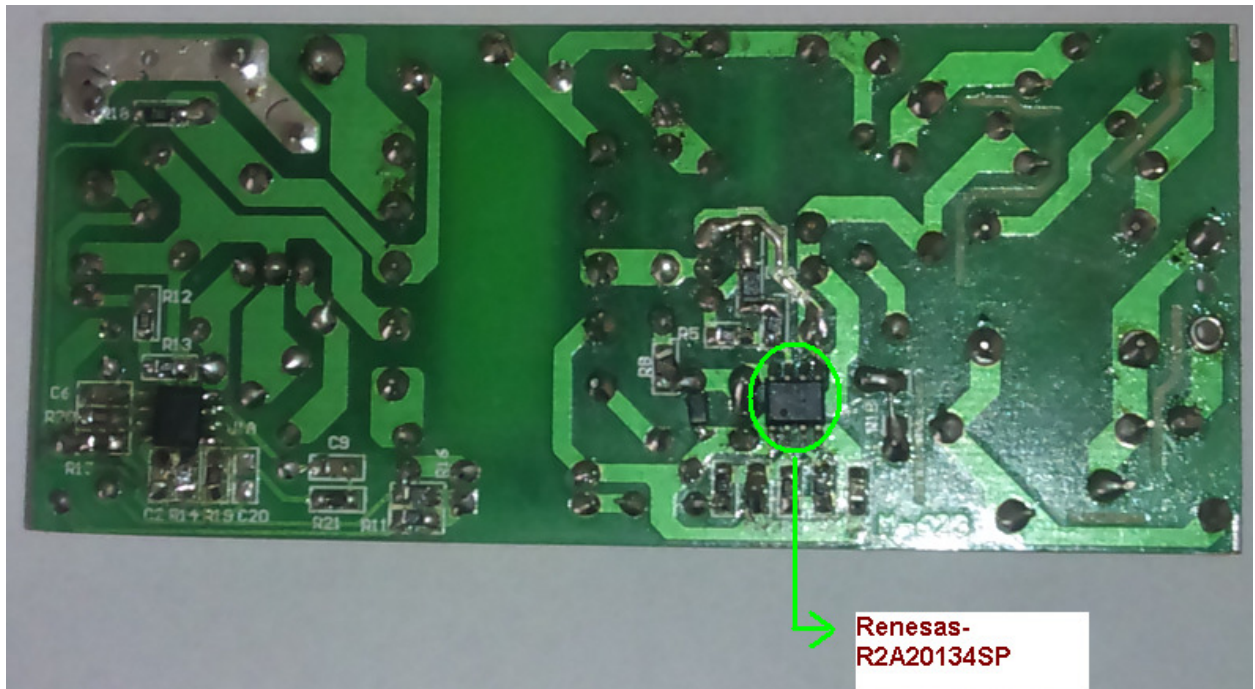
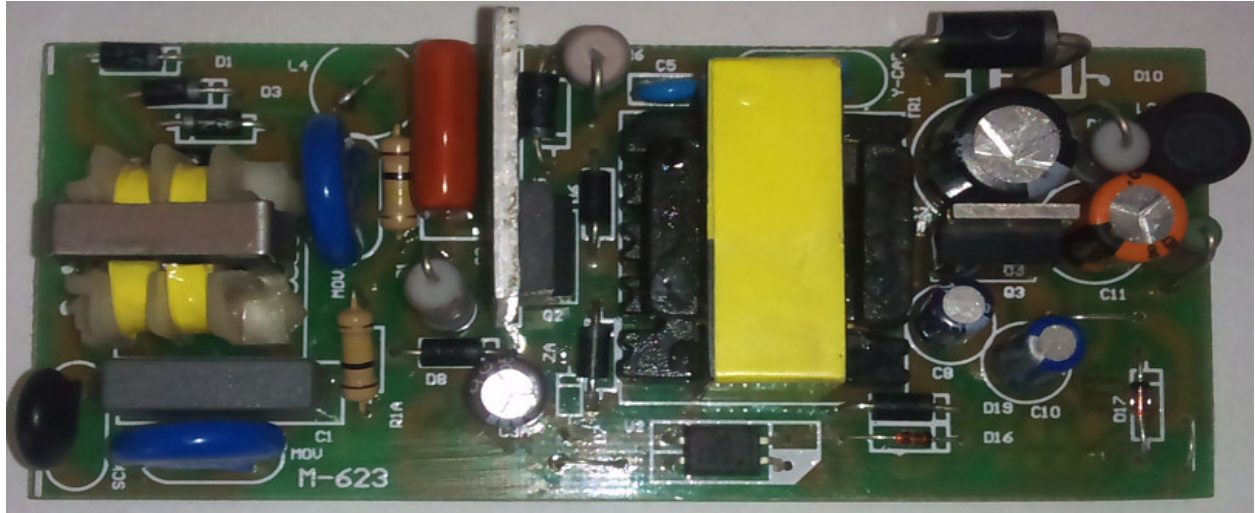


Figure 1: R2A20134SP- Isolated LED Driver for 18W HB-LEDs.

❖ EVALUATION BOARD



❖ INTRODUCTION

The R2A20134SP is a highly integrated Step down AC-DC LED Driver Controller with Power Factor Correction (PFC) . This Controller is highly suitable for power Requirement between 3W to 45W, designed to operate in Fixed Frequency and Zero Current Switching. The Peak Current Mode reduces the BOM Cost and helps to realize Low Cost System Cost with High Efficiency.

❖ Features

- Highly Accurate LED Current feedback System
- Single stage Power Factor Correction
- Adjustable Switching Frequency
- Wide Vcc range allow flexible LED Configuration
- Input Electrolytic Capacitor(E-CAP) Free Operation
- Supports : Isolated and Non Isolated System
- High Side Switch provide high Reliability (Renesas Patented Technology)
- Selectable Switching Frequency upto 200Khz reduces Magnetic Size
- Low Design Cost
- Integrated Soft Start Function
- Pb-Free and ROHS Compliant

❖ SPECIFICATIONS

- Extended Input Voltage : 90V-300V AC
- Input Frequency 50/60Hz
- Power Factor : > 0.95
- Harmonic Distortion < 15%
- Efficiency : > 85%

❖ PROTECTIONS

- Open LED Protection
- Over Voltage Protection
- LED Short Protection
- Over Current Protection
- Input Inrush Current Protection
- Surge Protection
- Over Temperature

❖ RENESAS B.O.M

- LED Driver IC : R2A20134SP
- Zener Diode-ZA : RD20FS
- Zener Diode-ZD1 : RD20FS
- Optocoupler :U2 : PS-2561

❖ APPLICATIONS

- LED Bulb
- LED Tube Light-T8
- LED Street Light
- LED Down Light
- Bay LED Light
- Architectural LED Light

*Evaluation Board Available on Request.