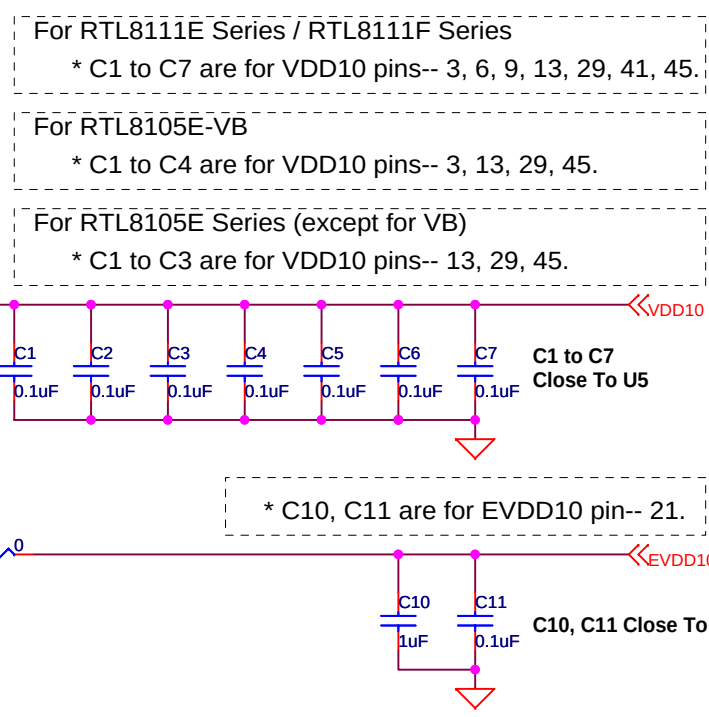
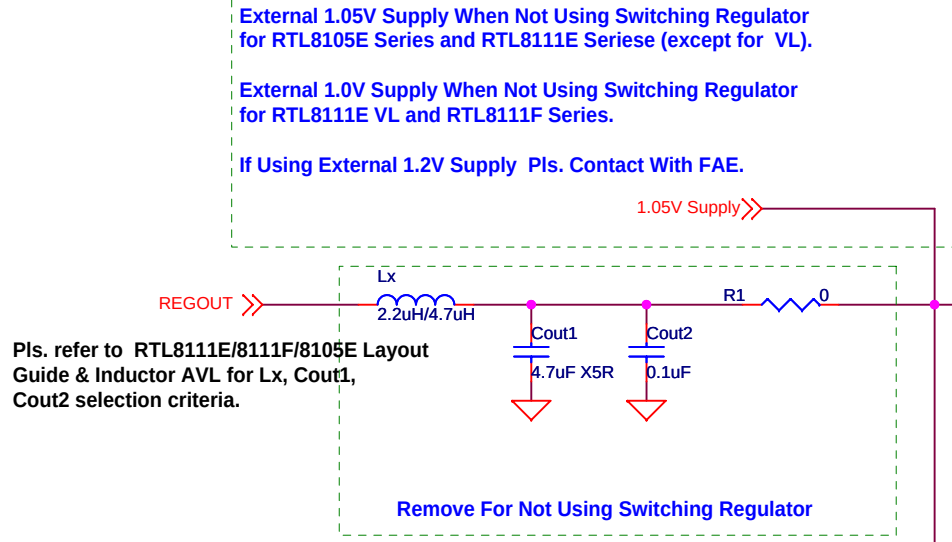


RTL8111E/RTL8111F/RTL8105E 48Pin
Reference Schematic V110

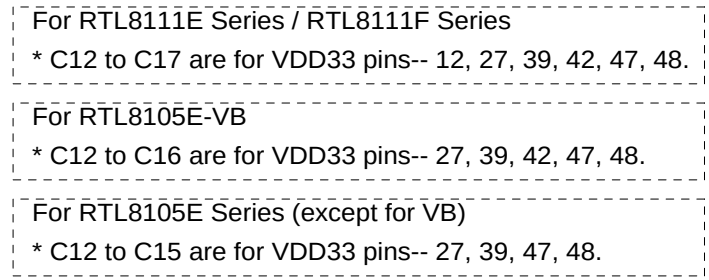
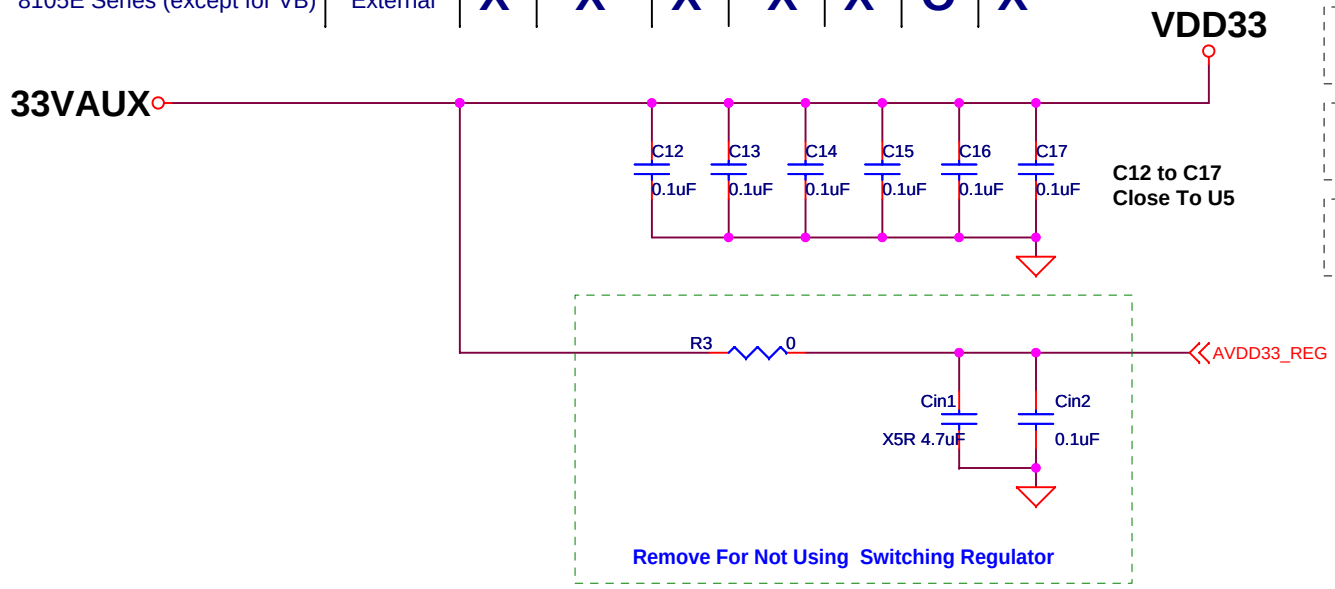
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Realtek Semiconductor Corp.		
No.2, Industry E. Rd. IX, Science-Based Industrial Park, Hsinchu, Taiwan 300		
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	mode	Lx	Cout1,2	R1	Cin1,2	R3	R23	R24
8111E Series/8111F Series/8105E Series	SWR	O	O	O	O	O	O	X
8105E Series (except for VB)	LDO	X	X	X	X	X	X	O
8111E Series/8111F Series/8105E-VB	External	X	X	X	X	X	X	O
8105E Series (except for VB)	External	X	X	X	X	X	O	X



****Power Sequence Must Refer to Layout Guide.****

The diagram shows the R4J5S1X1 module connected to the GST5009-R module. The R4J5S1X1 module has a CON1 connector with pins 1 through 18. The GST5009-R module has pins 1 through 24. The connections are as follows:

- CON1 Pin 1: FGND
- CON1 Pin 2: DA+
- CON1 Pin 3: DA-
- CON1 Pin 4: DB+
- CON1 Pin 5: DB-
- CON1 Pin 6: DC+
- CON1 Pin 7: DC-
- CON1 Pin 8: DD+
- CON1 Pin 9: DD-
- CON1 Pin 10: P11
- CON1 Pin 11: P12
- CON1 Pin 12: P13
- CON1 Pin 13: P14
- CON1 Pin 14: P15
- CON1 Pin 15: P16
- CON1 Pin 16: P17
- CON1 Pin 17: P18
- CON1 Pin 18: P19

The GST5009-R module has the following connections:

- Pin 1: TCT1
- Pin 2: MDI3+
- Pin 3: MDI3-
- Pin 4: TD2+
- Pin 5: MDI2+
- Pin 6: MDI2-
- Pin 7: TD3+
- Pin 8: MDI1+
- Pin 9: MDI1-
- Pin 10: TD4+
- Pin 11: MDI0+
- Pin 12: MDI0-
- Pin 13: MX4+
- Pin 14: MX4-
- Pin 15: TCT4
- Pin 16: MX3+
- Pin 17: MX3-
- Pin 18: MCT3
- Pin 19: MCT2
- Pin 20: MX2+
- Pin 21: MX2-
- Pin 22: MCT2
- Pin 23: MX1+
- Pin 24: MX1-

The capacitors are connected as follows:

- C26: 0.01uF, connected between pin 12 and ground.
- C30: 0.1uF, connected between pin 12 and ground.
- C32: 0.01uF, connected between pin 12 and ground.
- C33: 0.01uF, connected between pin 12 and ground.
- C35: 1000P 2KV, connected between pin 12 and ground.

C26 value should be 0.01uF-0.4uF

The image shows two identical circuit diagrams for surge protection components, labeled U7 and U8. Each diagram features a four-diode bridge rectifier (AZC099-04S) connected to a VDD33 power rail. The input pins (1, 2, 3) are labeled MDIO-1, GND, and MDIO+3 respectively. The output pins (4, 5, 6) are labeled MDI1-, 5, and MDI1+ respectively. A 0.1uF capacitor (C37) is connected between the VDD33 rail and ground. The same configuration is shown for U8 with pins labeled MDI2-1, GND, MDI2+3, MDI3-, 5, and MDI3+.

VDD33

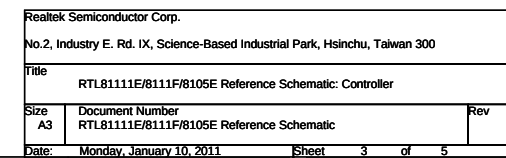
LED0 R26 510 3 D1 LEDx2 2

LED1/EESK R28 510 4 1

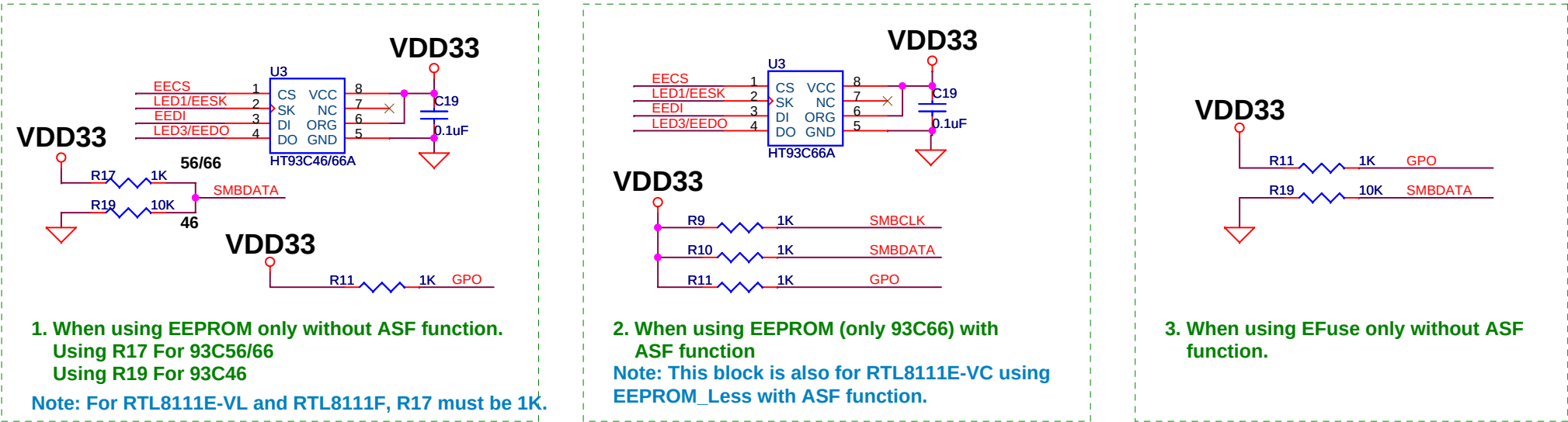
LED3/EEDO R29 510 2 D2 1

LED

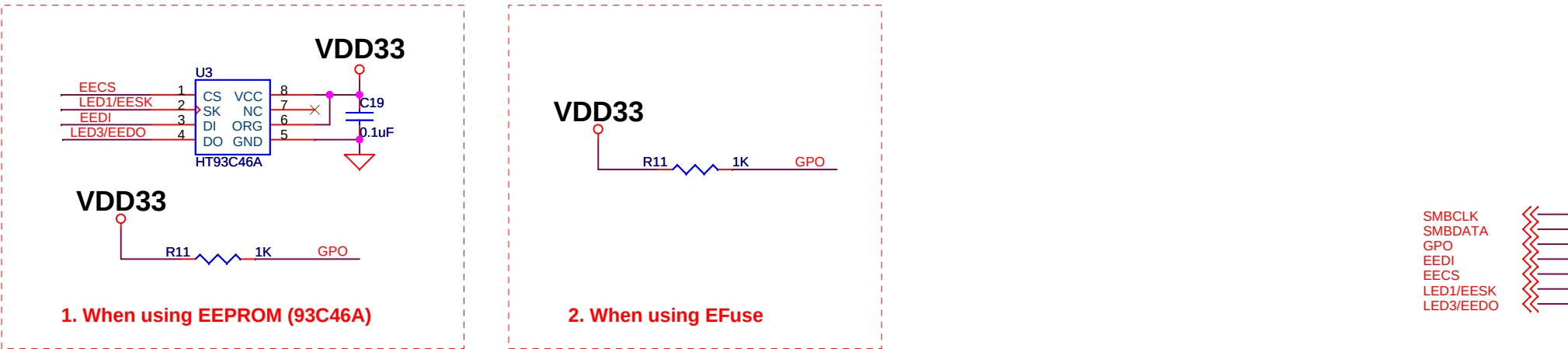
Support R >= 249 ohm Resistor For Single Color LED.



For RTL8111E Series and RTL8111F Series EEPROM / ASF / Efuse Function (3 Option)



For RTL8105E Series EEPROM / Efuse Function (2 Option)



Keep R11 for RTL8105E-VB application
Remove R11 for RTL8105E Series (except for VB)

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Change Notice from 1.00 to 1.01

1. C17 rename to Cin1, C18 rename to Cin2. C8 rename to Cout1, C9 rename to Cout2, L1 rename to Lx to align with SWR Layout Guide (Page 2.)
2. Add supported resistor values for Dual Color LED, supported combinations when using EEPROM (Page 3.)
3. Add R38 for external clock circuit. (Page 3.)

Change Notice from 1.01 to 1.02

1. Update Pin name(Pin3, Pin47) For RTL8105E.(Page 3.)
2. Update Capacitor Description For RTL8105E and RTL8111E. (Page 2.)
3. Modify Center tap Schematic for Power Optimization. Center tap short and coconnector 1uF to GND.(Page 3.)
4. Add RTL8105E Optional Function Schematic.(Page 4.)

Change Notice from 1.02 to 1.03

1. Modify Efuse Autoload Schematic, SMBDATA Pull Down. (Page 4.)

Change Notice from 1.03 to 1.04

1. Remove TWSI Schematic. (Page 3 & 4.)
2. Remove TWSI Share Pin Name. (Page 3 & 4.)
3. Add Note For Lanwakeb & Clkreqb.(Page 3.)
4. Add Note For Function Option for Using Efuse/BIOS Patch.(Page 4.)

Change Notice from 1.04 to 1.05

1. Add Resister For SMB Bus.(Page 3.)
2. Add C26 Value Note.(Page 3.)
3. Add SWR Power Sequence Note.(Page2.)

Change Notice from 1.05 to 1.06

1. Modify Power Mode Table. (Page 2.)
2. Remove C4, C16 For RTL8105E-VC. (Page 2.)
3. Modify Lx Value and Update Note. (Page 2.)
4. Modify C26 Value Note. (Page 3.)

Change Notice from 1.06 to 1.07

1. Remove XTAL14.318M from XTAL Circuit. (Page 3.)

Change Notice from 1.07 to 1.08

1. Modify R17 Value. (Page 3 & 4.)
2. Add note for RTL8111E-VL and RTL8111E-VC (Page 4.)
3. Remove R11 for RTL8105E-VC. (Page 4.)

Change Notice from 1.08 to 1.09

1. Modify Note For RTL8105E Series. (Page 2.)
2. Modify Note For RTL8105E Series EEPROM / Efuse Function. (Page 4.)

Change Notice from 1.09 to 1.10

1. Add Note For RTL8111F Series.
2. Modify Note For External Power Supply When Not Using Switching Regulator (Page 2)

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