



A96T418GDN Shield Board

STKS-A96T418-GDN-TOUCH-A

H/W Manual

Version 1.02

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1 Introduction

This document introduces the hardware configuration of the A96T418 starter kit shield board (STKS-A96T418-GDN-TOUCH-A)

1. Touch PAD
2. M-Type LED Matrix
3. T-Type LED Segment
4. Buzzer
5. Design Guide

2 Board Description

2.1 Board Exterior

2.1.1 Top view

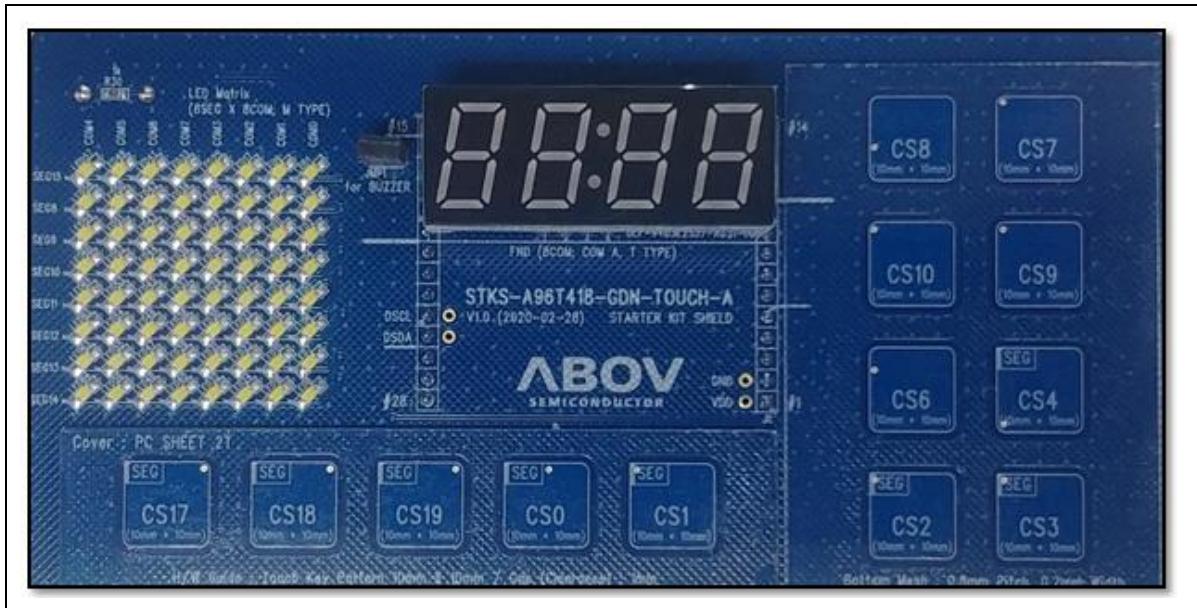


Figure 1. Top view

2.1.2 Bottom view

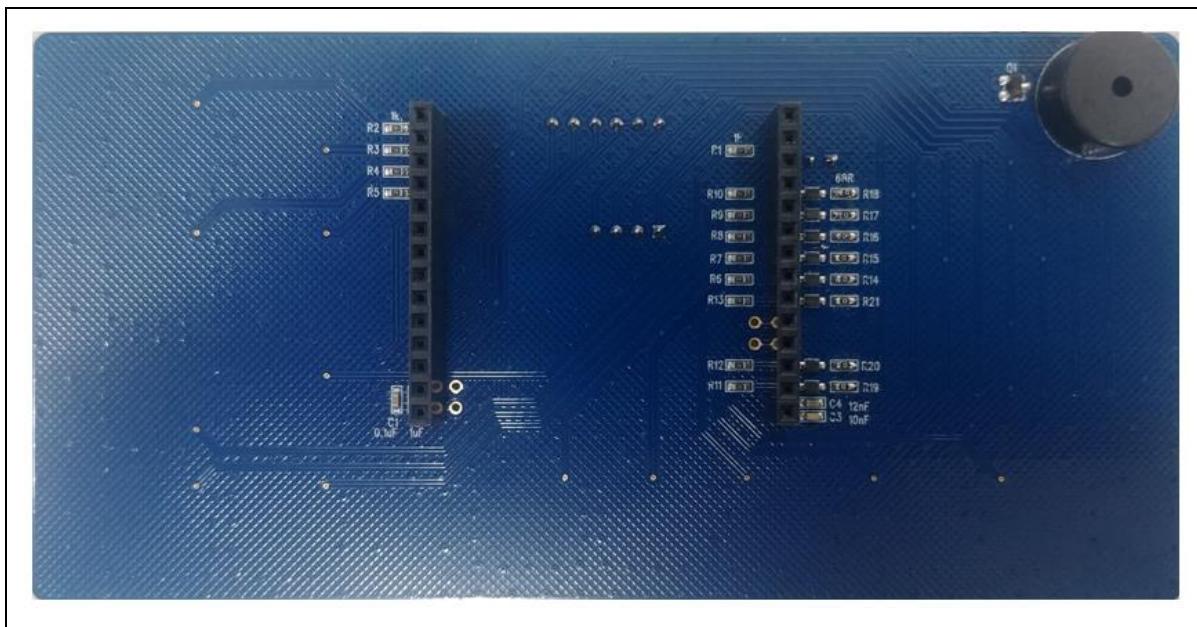


Figure 2. Bottom view

2.1.3

View combined on top of the starter kit

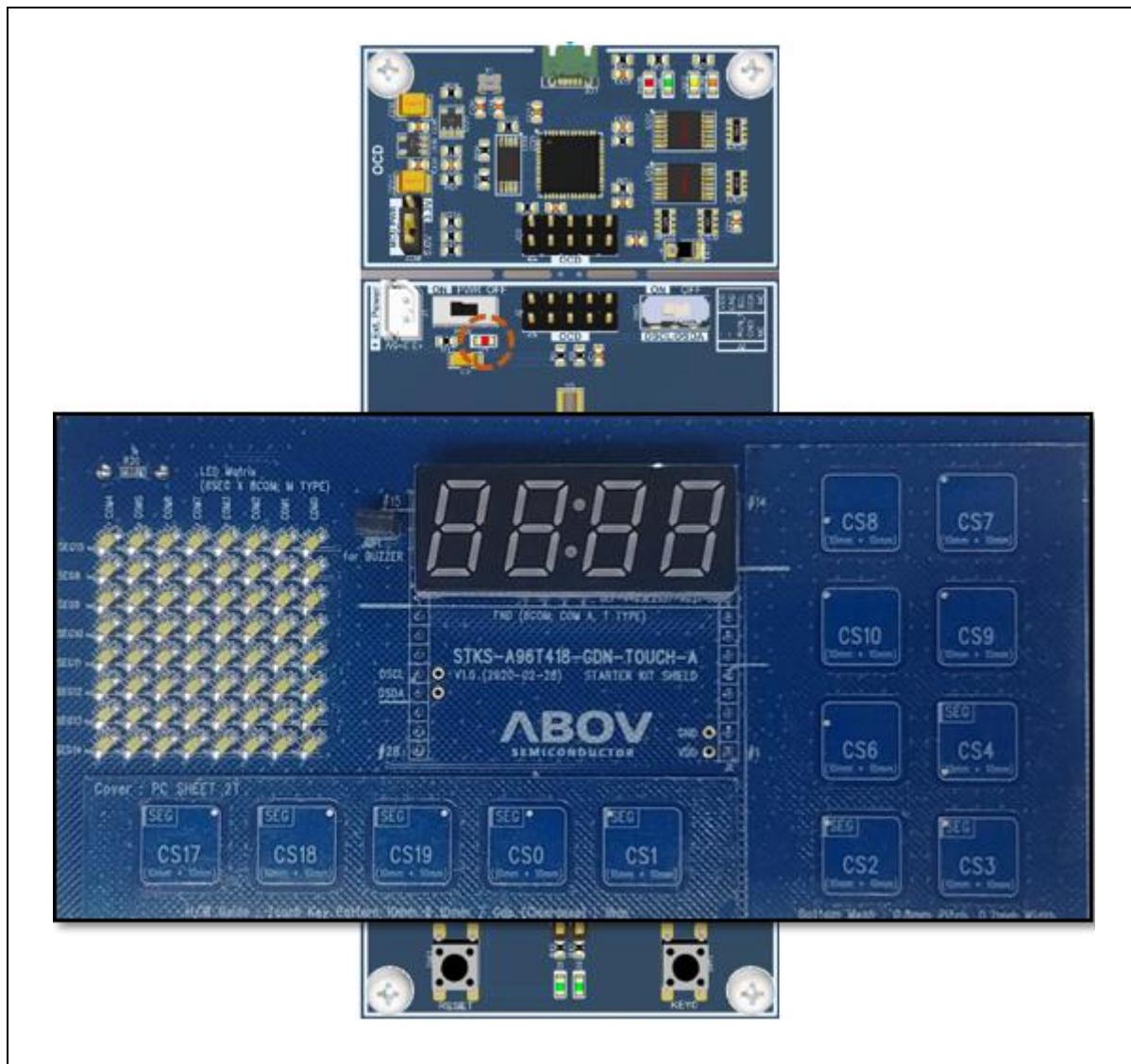


Figure 3. STKS on STK

2.2 Function Block

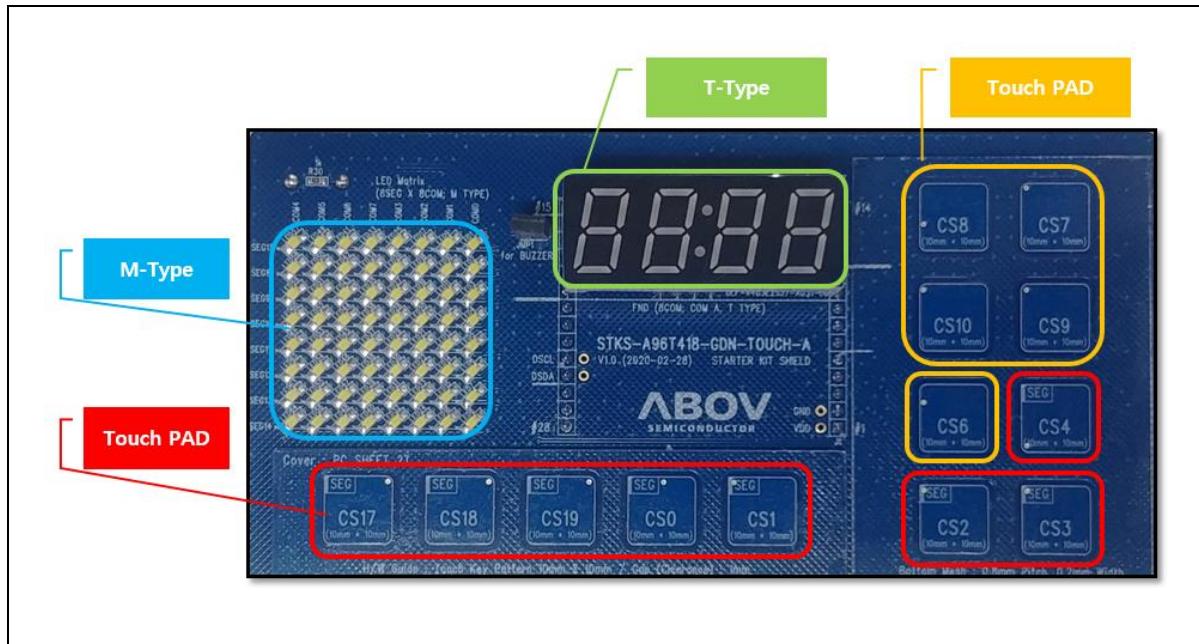


Figure 4. Function Block

2.2.1 Touch PAD

1. Touch only port

: For ESD protection, a series resistor is required for each channel. (1kΩ is recommended)



Figure 5. Touch only port

2. Touch & SEG port

: In addition to resistors for ESD protection, diode is required for each channel to remove parasitic capacitance resulting from the LED matrix structure. (The smaller diode capacitance, the better)

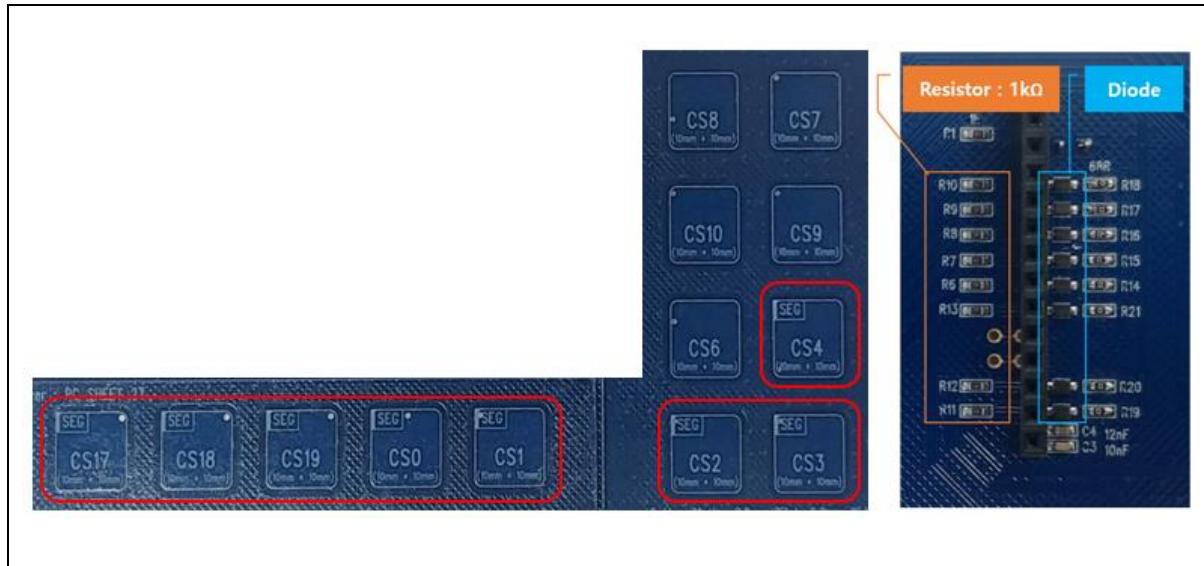
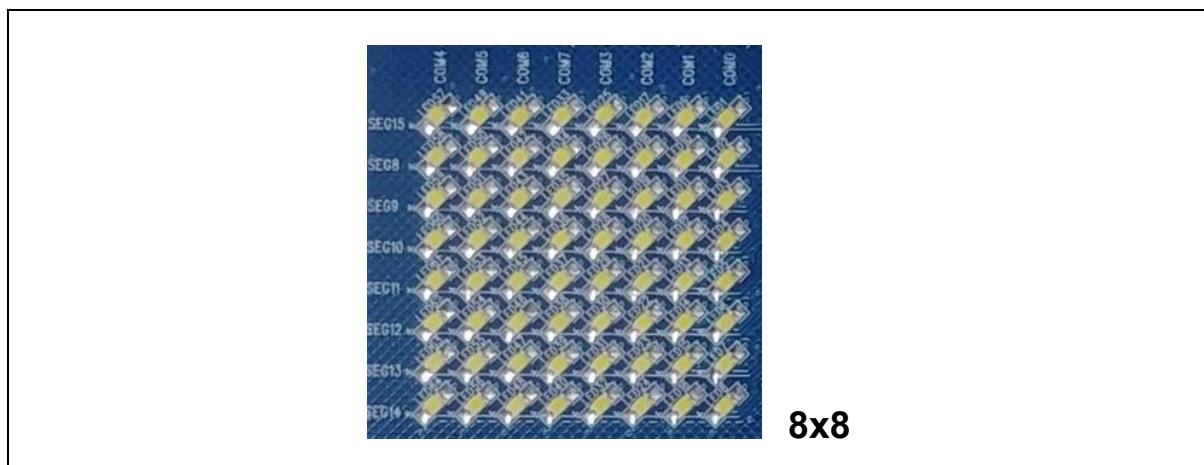


Figure 6. Touch & SEG port

2.2.2 M-Type LED Matrix

: 8COM x 8SEG structure. 64 LEDs can be controlled.



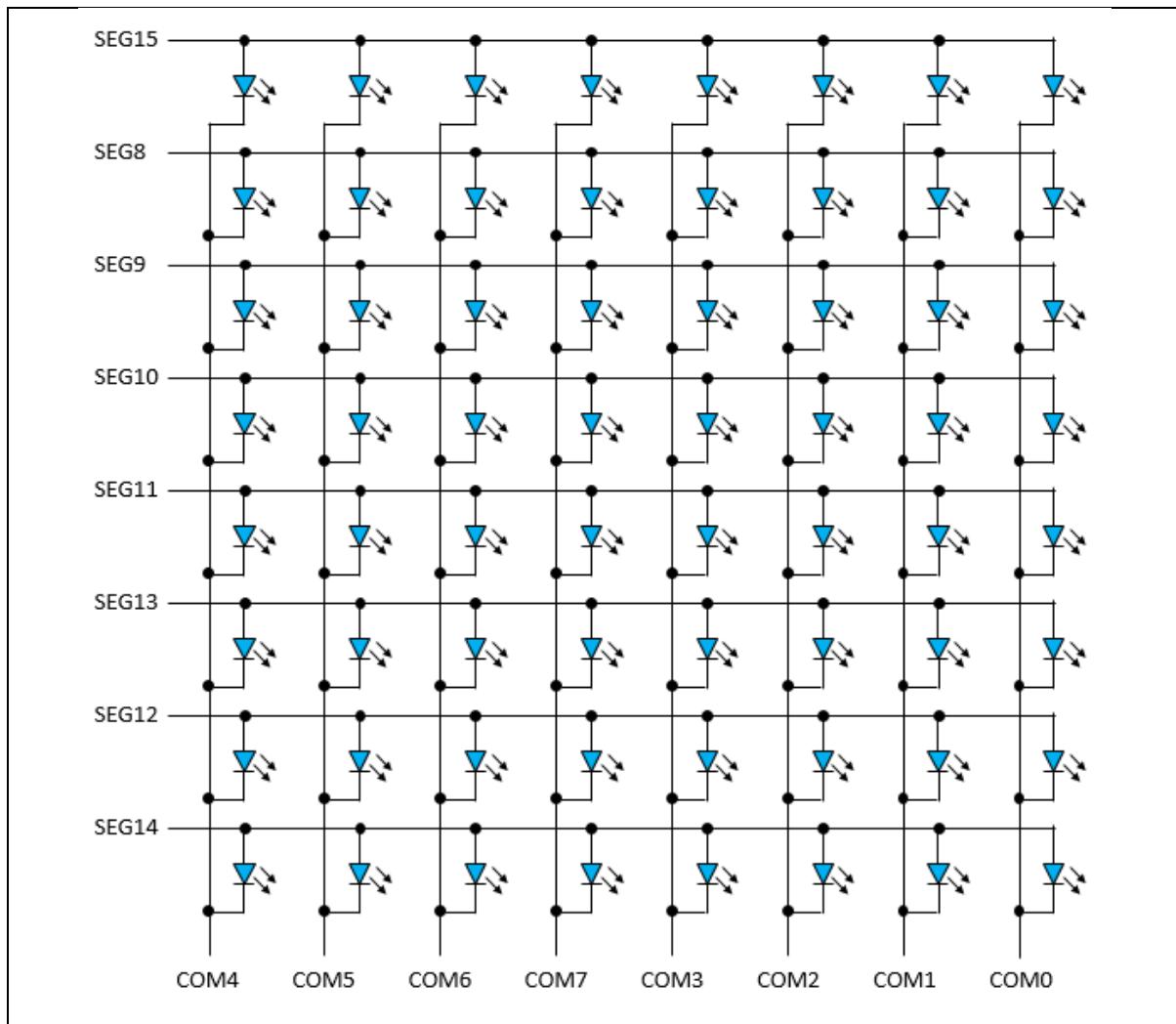


Figure 7. M-Type LED Matrix

2.2.3 T-Type LED Matrix\

1. For details on T-Type LED control, refer to the “T-Type LED Structure Control” document.
2. LED segment suitable for T-Type LED Structure is required.



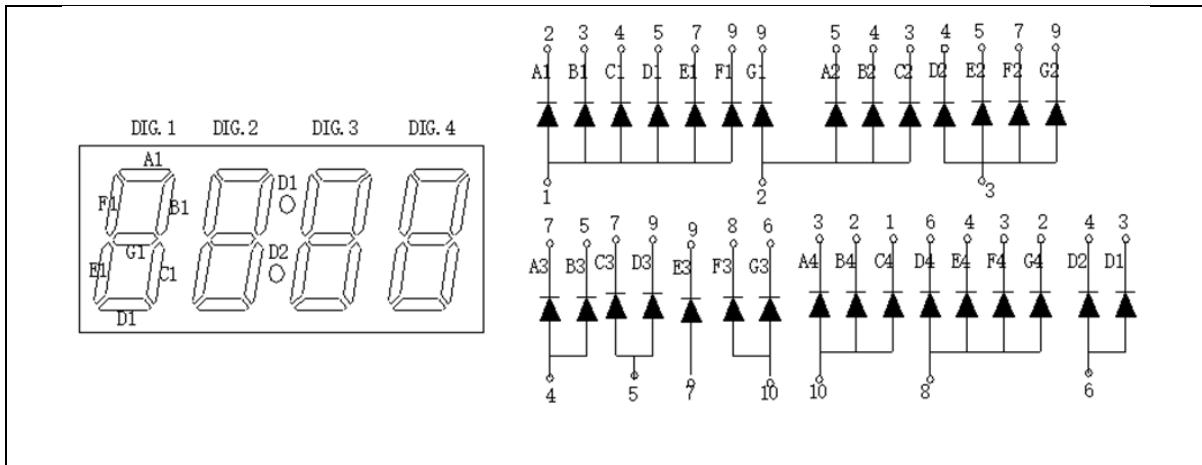


Figure 8. T-Type LED Segment

2.2.4 Buzzer

: It is connected to Timer1 PWM output (P11/PWM1O)



Figure 9. Buzzer

2.2.5 Design Guide

CAPN

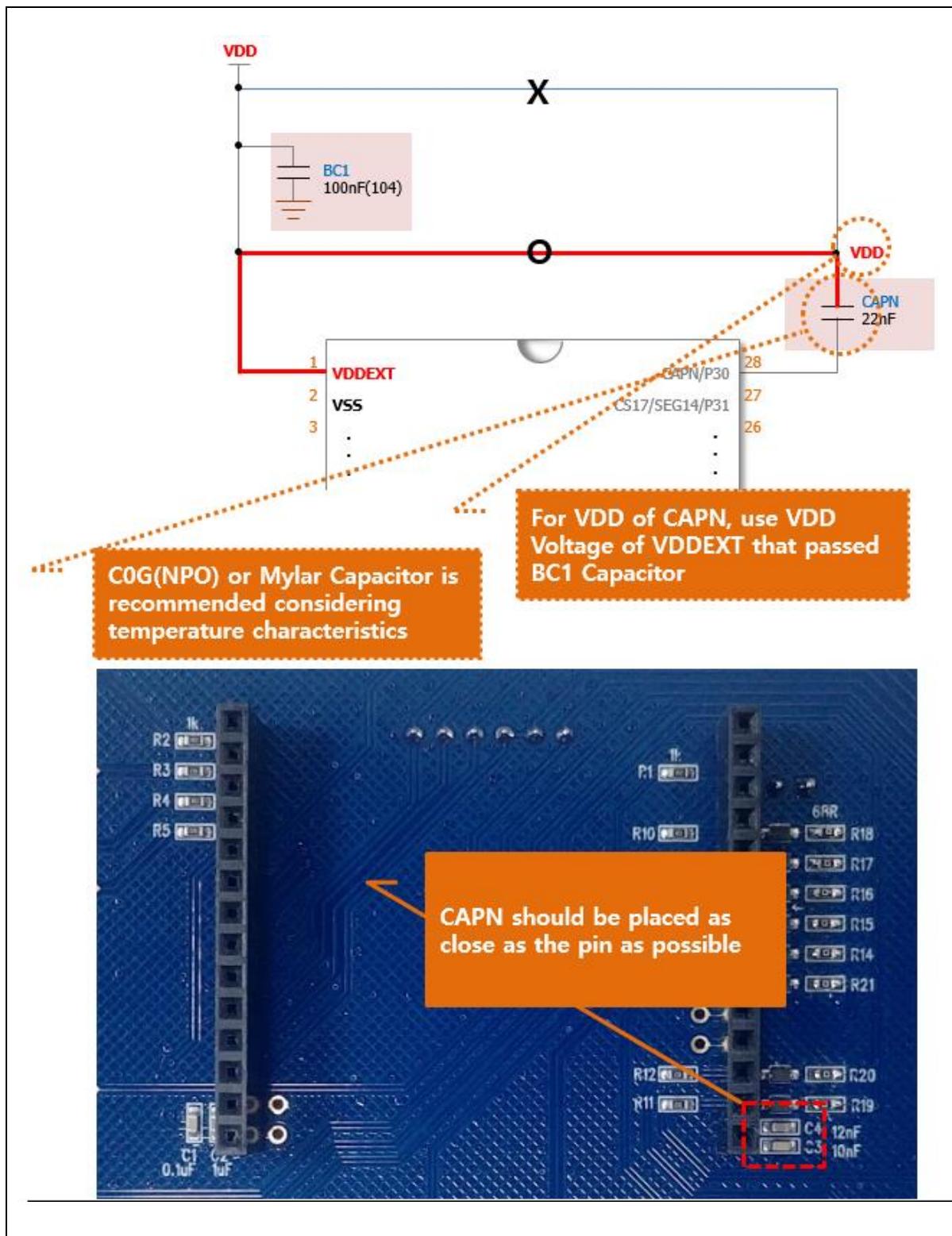


Figure 10. CAPN

- Resistor for ESD

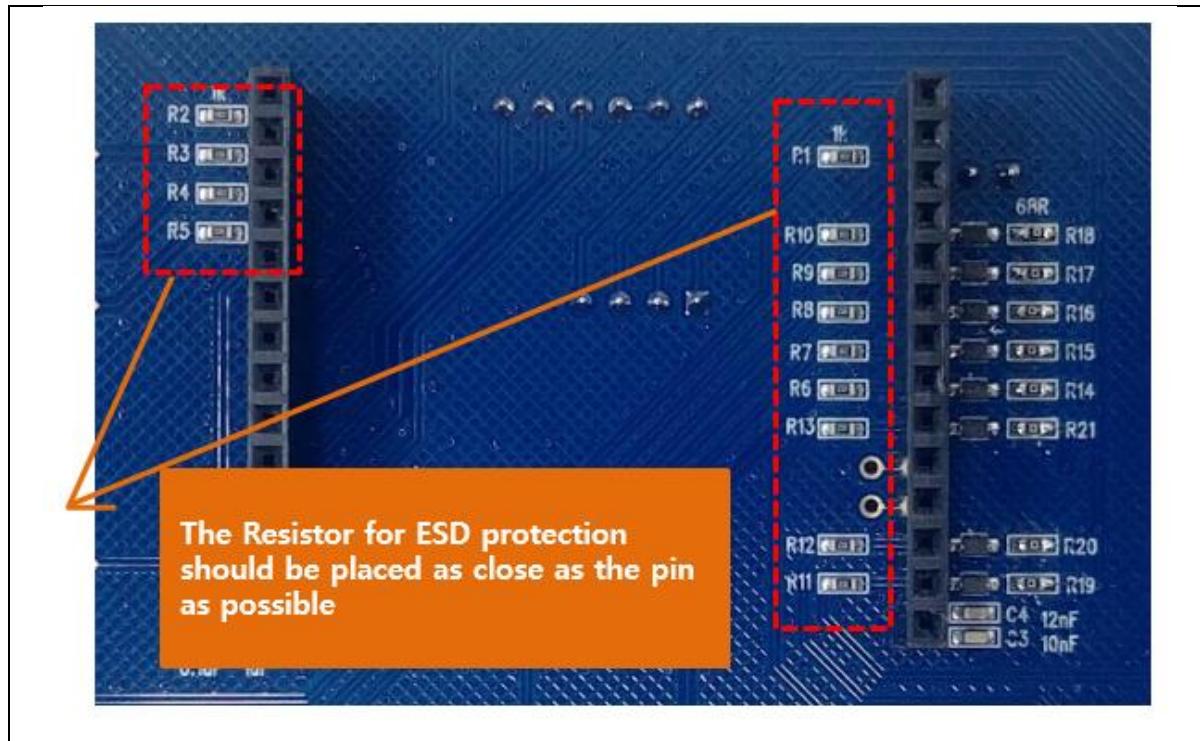


Figure 11. Resistor for ESD protection

3 Schematic

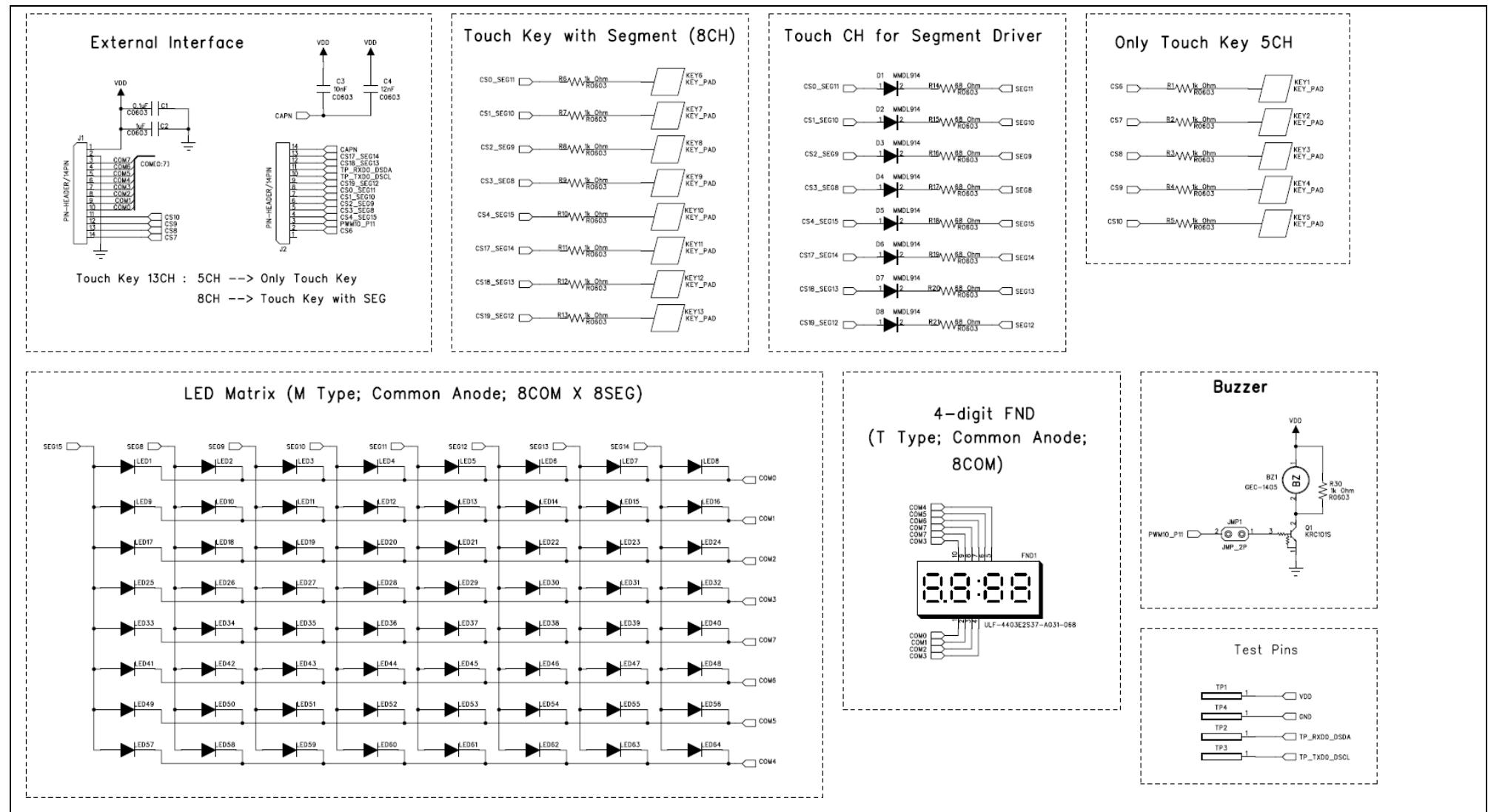


Figure 12. Schematic

Revision history

Date	Revision	Description
20.04.10	1.00	Document created
22.11.01	1.01	Revised the font of this document
24.12.02	1.02	Updated the disclaimer.

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