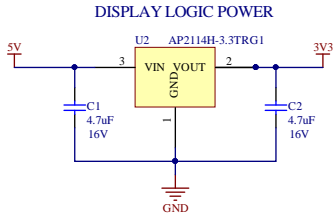
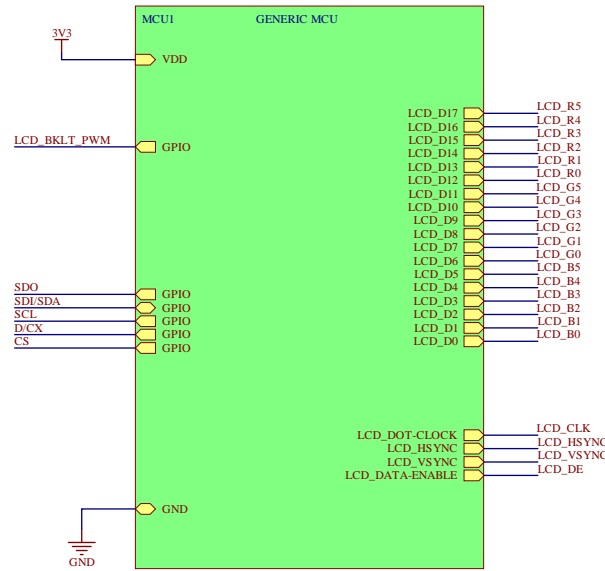


# DT028CTFT RGB Reference Design

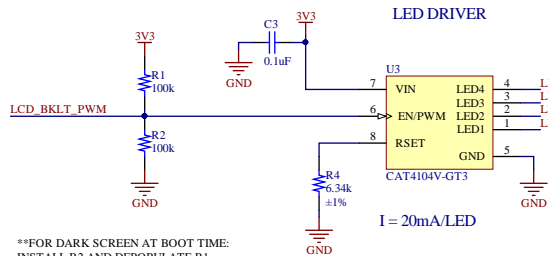
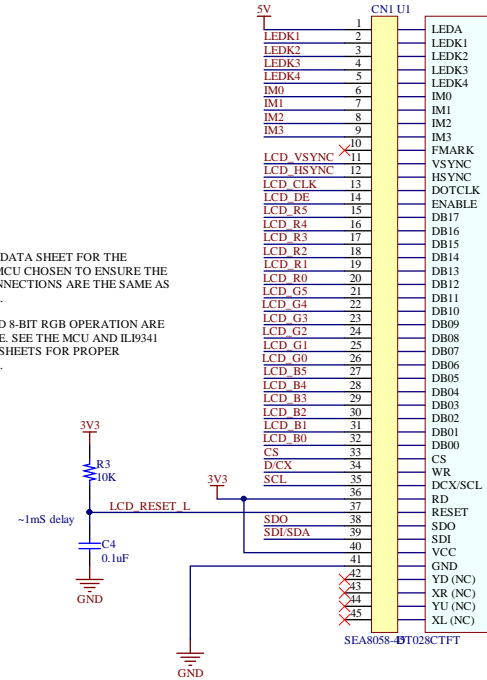
(RGB 18-BIT WITH SERIAL DATA CONFIGURATION)



THESE SERIAL DATA SIGNALS ARE NOT FULLY COMPATIBLE WITH STANDARD SPI DATA PROTOCOLS. CUSTOM DRIVERS ARE NEEDED TO USE SPI HARDWARE PORTS.  
A BIT-BANGED IMPLEMENTATION IS AVAILABLE IN THE SAMPLE DRIVER CODE.



CONSULT THE DATA SHEET FOR THE PARTICULAR MCU CHOSEN TO ENSURE THE LCD DATA CONNECTIONS ARE THE SAME AS THIS EXAMPLE.  
RGB 16-BIT AND 8-BIT RGB OPERATION ARE ALSO POSSIBLE. SEE THE MCU AND ILI9341 DRIVER DATA SHEETS FOR PROPER CONNECTIONS.



\*\*FOR DARK SCREEN AT BOOT TIME: INSTALL R2 AND DEPOPULATE R1.  
\*\*FOR NORMAL SCREEN AT BOOT TIME: INSTALL R1 AND DEPOPULATE R2.


I = 20mA/LED

DT028CTFT Interface Mode Settings (Serial)					
IM3	IM2	IM1	IM0	Interface Mode	Pins
0	1	0	1	3-wire, 9-bit bus	SDA(in/out) + SCL
0	1	1	0	4-wire, 8-bit bus	SDA(in/out) + SCL + D/CX
1	1	0	1	3-wire, 9-bit bus	SDI(in) + SDO(out) + SCL
1	1	1	0	4-wire, 8-bit bus	SDI(in) + SDO(out) + SCL + D/CX

LOGIC 1 = VDD (3.3V)  
LOGIC 0 = GND

CHIP SELECT (CS) SIGNAL IS USED IN ALL SERIAL MODES TO INITIATE A DATA TRANSFER SEQUENCE.

THE DIFFERENCE BETWEEN 3-WIRE AND 4-WIRE SERIAL IS THE HANDLING OF THE DATA/COMMAND SIGNAL (D/CX). 3-WIRE SERIAL SENDS THE D/CX SIGNAL IN A 9TH DATA BIT. 4-WIRE SERIAL USES A SEPARATE WIRE FOR THE D/CX SIGNAL. THERE IS NO RELATIONSHIP WITH THE PHYSICAL NUMBER OF WIRES USED.

Project: DT028CTFT Reference Design			 a seacompany	
Title: DT028CTFT RGB Reference Design				
Size: A3	Doc Number: 1	Revision: REVA1	Drawn By: RCG	
Date: 2/7/2020	Time: 4:29:17 PM	Sheet: 1 of 1	Approved:	
File: DT028CTFT_RGB.SchDoc			Date:	
SEACOMP Displaytech 2546 Gateway Road Carlsbad, CA 92009 USA				