

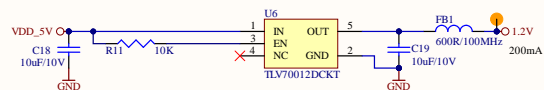
Project: *DM0250TG*
Current Revision: *R0M0E0*

DM0250TG Revision History:

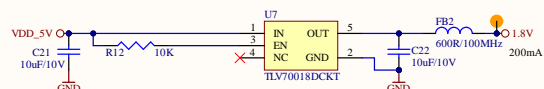
Date	Revision	Reason for Change	Changes Implemented
12/30/2020	BG0250TG-> R0M0E0	1) ESD protection 2) FPC connector stronger mechanics 3) Outdated stackup	1) Added protection diodes to MIPI lines 2) Changed FPC with Molex 505278 series 3) Standardized 4L stackup

Title <i>DM0250TG</i>			Laxonis Holding 1925 Harmony Park Drive Westminster, CO 80234		Cannot open file C:\Users\Brian.Laxonis\Documents\DM0250TG.dwg
Size: <i>Tabloid</i>	Number: <i>D0000999</i>	Revision: <i>ROM0EO</i>			
Date: <i>3.01.2021</i>	Time: <i>21:34:44</i>	Sheet <i>1</i> of <i>3</i>	<i>United States</i>		
Drawn by: <i>David Malorh</i>					

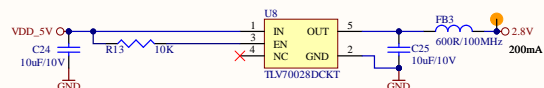
POWER



Mark "1V2" on PCB



Mark "1V8" on PCB



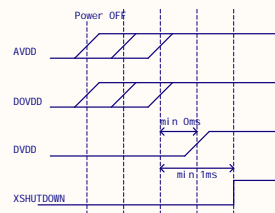
Mark "2V8" on PCB

Add capacitor to ground to make RC timing circuit for EN pins in order to obtain the appropriate power supply sequencing if necessary

Mark "GND" on PCB



Power Supply Sequence & Requirements



1. AVDD rising can occur before or after DOVDD rising as long as they are rising before XSHUTDOWN rising
2. XSHUTDOWN is pulled up after AVDD and DOVDD are stable
3. DVDD rises after DOVDD, but before XSHUTDOWN is pulled high

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Drawn by: David Malovich			Sheet 2 of 3		United States

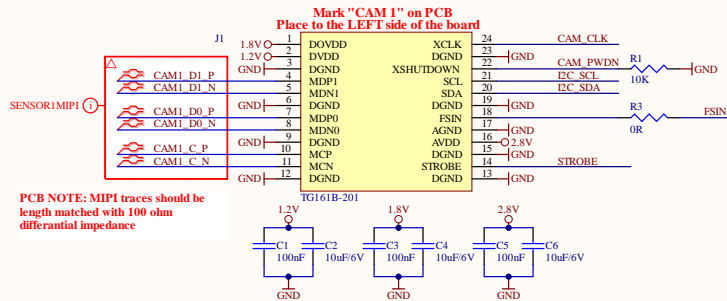
DM0250TG

Revision: R0M0E0

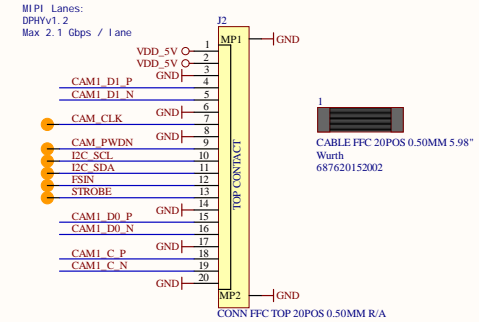
MODULE CONNECTOR

MODULE & SENSOR INFORMATION			
MODULE	TG161B-201 OR AN01V32-0JG	I2C Clock Rate	400 kHz Max
SENSOR	OV09282-GA4A 8W 1 Mega pixel CMOS 1/4 inch	I2C Address (8 bit s)	0xC0(W) 0xC1(R)
MAX RESOLUTION	1280X800	Sensor Clock Input	6 ~ 64 MHz (24 MHz typ.)

Supply Information			
Supply Name	Module	Sensor	Vol tage
DOVDD	VDD-I/O		1.8V
DVDD	VDD-D		1.2V
AVDD	VDD-A		2.8V



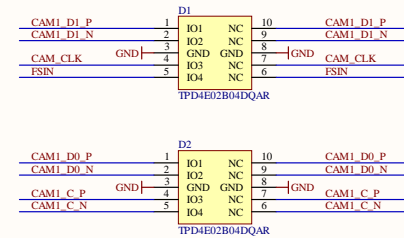
FFC CONNECTION



The Camera connector wraps around the board.

- The board thickness is 1.60mm.
- The thickness of the module's flex circuit is 0.16mm according to my calipers, so a 5x bend radius on that is 0.8mm radius so 1.6mm diameter. So bending to be flush w/ the board is technically OK according to general rules of thumb (5x FPCB thickness bend radius).
- If bending to flush with board, this takes pi/2 * 1.6 (since it's a half-circle) off the length of the connector, so 2.623mm off the connector.
- Probably want to plan on much more than that, to leave a bit of slack. The Google Coral camera left approximately 2.8mm of slack, for example.
- So going by that, 2.623mm absolute minimum + 2.8mm = 5.423mm of FFC length do the 180-degree bend, which let's round to 5.5mm to keep things clean on the PCB.

ESD PROTECTION



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