Driver Interface Module
CAN

Termination Resistor Sizing


ESD Protection Capacitors


Note: standby disabled

Driver Interface Module

Shepard Emerson

Title:

P/N:

Rev:

Date:

Sheet:

System:

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Tom Eliot

Daniel Haddox

PIC101 PIC102

COC1

PIC201 PIC202

COC2

PIC301 PIC302

COC3

PIC401 PIC402

COC4

PIC501 PIC502

COC5

PID101 PID102

COD1

PID103

COD2

PID501

COD3

PIU101 PIU102 PIU103 PIU104 PIU105 PIU106 PIU107 PIU108

COU1

PIR101 PIR102 PIR103

COR1

PIR201 PIR202

COR2

PIR301 PIR302

COR3

PIU106

POCAN

POCAN0PHY

POCAN0N

NLCAN0N

NLCAN0PHY

POCAN0PHY0CAN0N

POCAN0PHY0CAN0P

NLRXD

NLSPLIT
Power In
Under / Over / Reverse Voltage Protection
Power

Switching Regulator, 3-17V input 3.3V output

Switching Regulator, 3.5-36V input 5V 2A output

Power Indicators

5V Supply

3.3V Supply

Current Draw (max)

Total 11.85 A

VCC5 53.1 mA

Total 127.5 mA

Diag LEDS 50 mA

Fan Switch 3.3 mA

L_Pump Switch 1.3 mA

CAN Trans. 70 mA

Device

Current Draw (max)

12.5 V

13.7 K

13.7 K

13.7 K

1st divider

Clamping Diodes & Voltage Divider

Clamping diodes used 11 (forward current = 120mA)
14 (forward voltage) = 0.5V max at 10mA

Voltage between divider resistors: 5V + Vf = 6V

Maximum over/undervoltage with 1kohm resistor at 120mA:

Voltage between divider resistors: 5V + Vf = 6V

So, limiting factor in resistors is current leakage from VBatt to AGND in sensing.

Maximum over/undervoltage with 1kohm resistor at 120mA:

1mA leakage to ground: 17V (worst case) / 1mA = 17kohm, so use resistor total > 17kohm for

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Maxim
STM32 Power and Programming

Power and Decoupling Caps

Decoupling caps for U6C VBAT / VDD / VDDA pins

Note: VDDA/VREF input pi filter

Program / Debug Interface

Serial Wire

TAG_SWO
TAG_SWCLK
TAG_RST
TAG_VCC

400mA
240 Ohm
100nF

Decoupling caps for U6C VBAT / VDD / VDDA pins

Note: VDDA/VREF input pi filter
Driver Interface Module - SDRAM

Title: Driver Interface Module - SDRAM

Engineer: Tom Eliot
Shepard Emerson
Daniel Gorziglia
Daniel Haddox

P/N: DIM20-00

System: GLV
Rev: 2.0
Date: 4/5/2016
Sheet: 7 of 13

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Place caps close to SDRAM VDD/VDDQ pins
Constant Current Driver
80mA Output

![Diagonal Circuit Diagram](image-url)
LED Driver

Note: The ground pin on these ICs can sink up to 400mA on full power. Lay out accordingly
Right RGB Bargraph

Light Guides

Title: Driver Interface Module - RGB Bargraph
Engineer: Tom Eliot
Shepard Emerson
Daniel Gorziglia
Daniel Haddox
P/N: DIM20-00
System: GLV
Rev: 2.0
Date: 4/5/2016
Sheet: 1of 13
Left RGB Bargraph
RGB LED Bar
Button Input Protection
Connectors