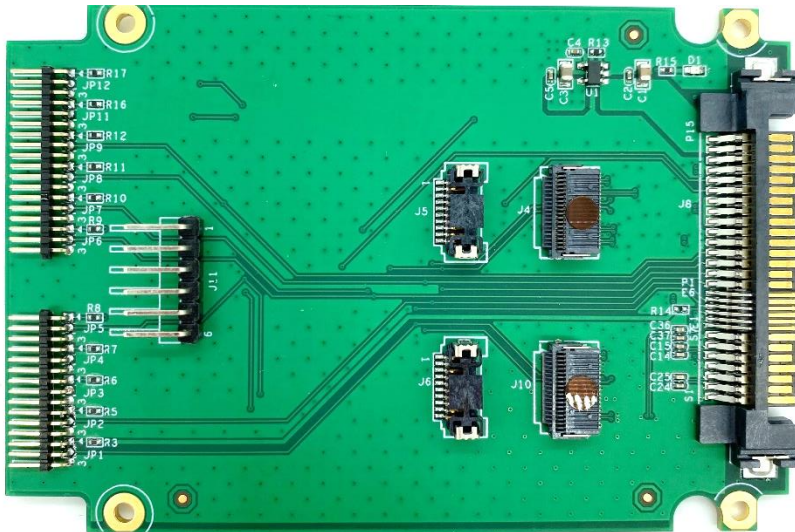


SFF8639_U2_FIREFLY EH2018002034 Reference Manual

November 2020 ver0.1



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Revision History

Date	Rev	Comment
Nov 2020	v0	Initial version

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SFF8639_U2_FIREFLY

IMPORTANT!

ESD



The SFF8639_U2_FIREFLY Transceiver Card, as with all other electronic equipment, is sensitive to electrostatic discharge (ESD). When handling the transceiver card:

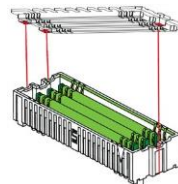
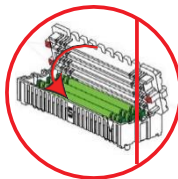
- Transport the card in an ESD bag
- Wear an anti-static wrist strap
- Make sure the work area is equipped with an ESD mat

Warning

Never hot-plug interface cards, daughter boards or cables. Always power down the HAPS[®] system when adding or removing a board, card, or cable to avoid damage to both the system and peripheral.

HapsTrak[®] 3 Connector Considerations

The HT3 connectors must be attached carefully! If connected improperly socket pins can be deformed or holding rail ends can become damaged.



Overview

This document is the SFF8639_U2_FIREFLY Reference Manual and describes the functions of the SFF8639_U2_FIREFLY daughter board.

The SFF8639_U2_FIREFLY daughter board includes two FIREFLY connectors to U.2 SFF8639 connector that support up to six high-speed serial links over two FIREFLY cables.

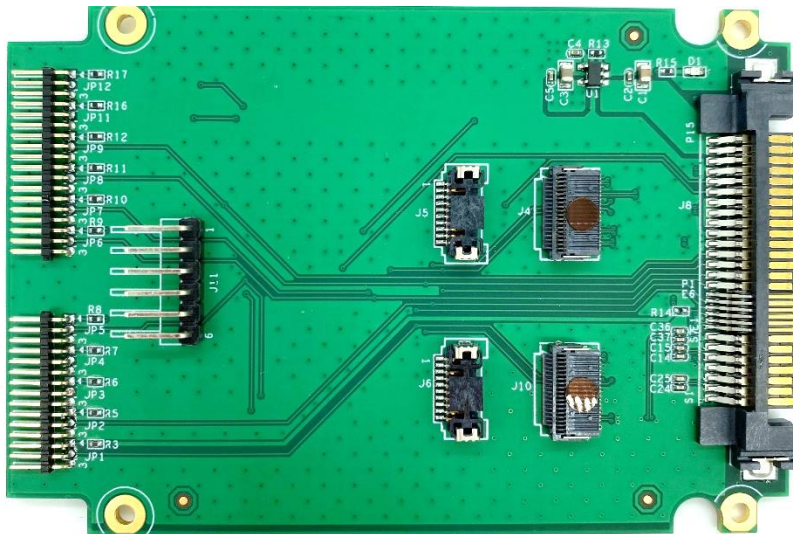


Figure 1: Top View of SFF8639_U2_FIREFLY

SFF8639_U2_FIREFLY daughter board consists of:

- 2 FIREFLY connectors
- 1 U.2 SFF8639 connector
- 1 PMOD connectors

Layout

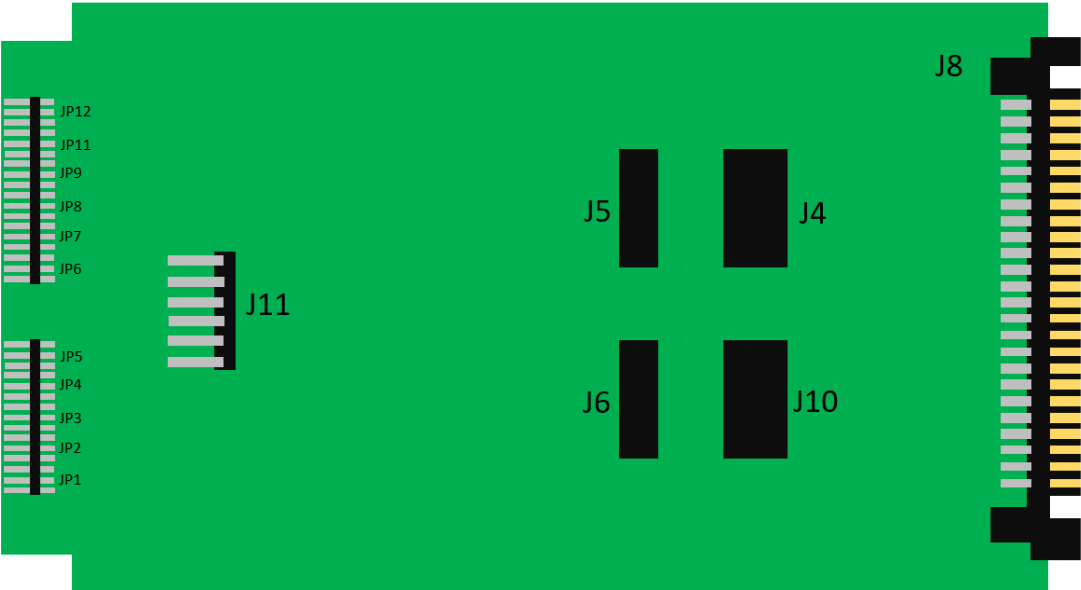


Figure 2: Top View of SFF8639_U2_FIREFLY Layout

Block Diagram

Figure 1 shows the connectivity between the SFF8639_U2_FIREFLY daughter board's headers.

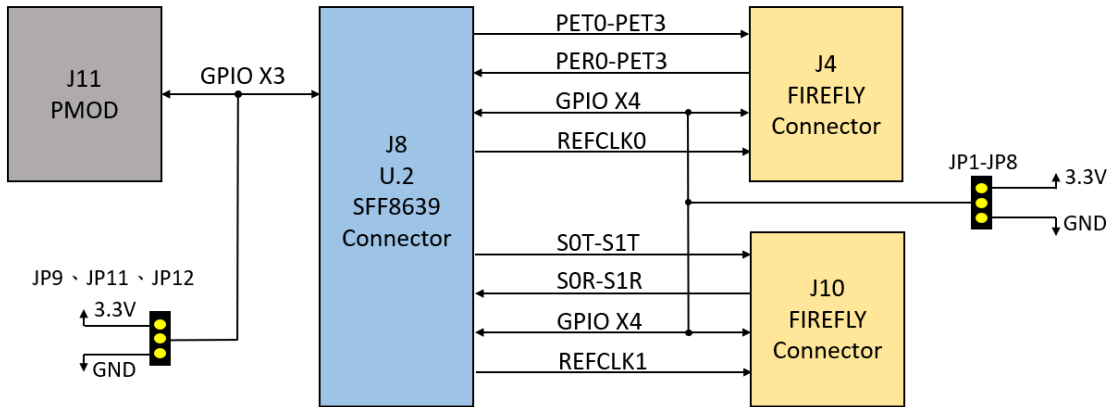


Figure 3: SFF8639_U2_FIREFLY Block Diagram

Jumpers

Jumpers provide different configuration options dependent on your requirements. The SFF8639_U2_FIREFLY has 11 3x1 jumpers.

Tables 1 lists various ways of connecting the control signals using jumper headers available on the SFF8639_U2_FIREFLY card

Jumper	Function
JP1	Short pin 1-2: PERST1# pull up to 3.3V. Short pin 2-3: PERST1# pull down to GND.
JP2	Short pin 1-2: PERST0# pull up to 3.3V. Short pin 2-3: PERST0# pull down to GND.
JP3	Short pin 1-2: DUALPORTEN# pull up to 3.3V. Short pin 2-3: DUALPORTEN# pull down to GND.
JP4	Short pin 1-2: PRSNT# pull up to 3.3V. Short pin 2-3: PRSNT# pull down to GND.
JP5	Short pin 1-2: ACTIVITY# pull up to 3.3V. Short pin 2-3: ACTIVITY# pull down to GND.
JP6	Short pin 1-2: WAKE# pull up to 3.3V. Short pin 2-3: WAKE# pull down to GND.
JP7	Short pin 1-2: PCIERST# pull up to 3.3V. Short pin 2-3: PCIERST# pull down to GND.
JP8	Short pin 1-2: DEVSLP# pull up to 3.3V. Short pin 2-3: DEVSLP# pull down to GND.
JP9	Short pin 1-2: IFDET# pull up to 3.3V. Short pin 2-3: IFDET# pull down to GND.
JP11	Short pin 1-2: SMB_CLK pull up to 3.3V. Short pin 2-3: SMB_CLK pull down to GND.
JP12	Short pin 1-2: SMB_DAT pull up to 3.3V. Short pin 2-3: SMB_DAT pull down to GND.

Table 1: SFF8639_U2_FIREFLY Control Signals

Pin Tables

U.2 Connector

J8			
Trace Name	Pin	Pin	Trace Name
GND	S1	E1	REFCLK1_P
S0T_P	S2	E2	REFCLK1_N
S0T_N	S3	E3	-
GND	S4	E4	PERST1#
S0R_N	S5	E5	PERST0#
S0R_P	S6	E6	-
GND	S7	E7	REFCLK0_P
GND	S8	E8	REFCLK_N
S1T_P	S9	E9	GND
S1T_N	S10	E10	PET0_P
GND	S11	E11	PET0_N
S1R_N	S12	E12	GND
S1R_P	S13	E13	PER0_N
GND	S14	E14	PER0_P
-	S15	E15	GND
GND	S16	E16	-
PET1_P	S17	E17	PET3_P
PET1_N	S18	E18	PET3_N
GND	S19	E19	GND
PER1_N	S20	E20	PER3_N
PER1_P	S21	E21	PER3_P
GND	S22	E22	GND
PET2_P	S23	E23	SMB_CLK
PET2_N	S24	E24	SMB_DAT
GND	S25	E25	DUALPORTEN#
PER2_N	S26		
PER2_P	S27		
GND	S28		
WAKE#	P1	P9	-
PCIERST#	P2	P10	PRSNT#
DEVSLP#	P3	P11	ACTIVITY#
IFDET#	P4	P12	GND
GND	P5	P13	-
GND	P6	P14	-
-	P7	P15	-
-	P8		

FIREFLY Connector

Connector		Connector	
J4		J4	
Trace Name	Pin	Pin	Trace Name
GND	A1	B1	GND
PET0_N	A2	B2	PET1_N
PET0_P	A3	B3	PET1_P
GND	A4	B4	GND
PET2_N	A5	B5	PET3_N
PET2_P	A6	B6	PET3_P
GND	A7	B7	GND
PRSNT#	A8	B8	PERST0#
WAKE#	A9	B9	PCIERST#
GND	A10	B10	GND
	A11	B11	REFCLK0_N
	A12	B12	REFCLK0_P
GND	A13	B13	GND
PER3_P	A14	B14	PER2_P
PER3_N	A15	B15	PER2_N
GND	A16	B16	GND
PER1_P	A17	B17	PER0_P
PER1_N	A18	B18	PER0_N
GND	A19	B19	GND

Connector		Connector	
J10		J10	
Trace Name	Pin	Pin	Trace Name
GND	A1	B1	GND
S0T_N	A2	B2	S1T_N
S0T_P	A3	B3	S1T_P
GND	A4	B4	GND
	A5	B5	
	A6	B6	
GND	A7	B7	GND
ACTIVITY#	A8	B8	PERST1#
DUALPORTEN#	A9	B9	DEVSLP#
GND	A10	B10	GND
	A11	B11	REFCLK1_N
	A12	B12	REFCLK1_P
GND	A13	B13	GND
	A14	B14	
	A15	B15	
GND	A16	B16	GND
S1R_P	A17	B17	S0R_P
S1R_N	A18	B18	S0R_N
GND	A19	B19	GND

PMOD Connectors

J11

Trace Name	Pin
SMB_CLK	1
SMB_DAT	2
-	3
IFDET#	4
GND	5
+3V3	6