FAIRCHILD™

The Power to Amaze.

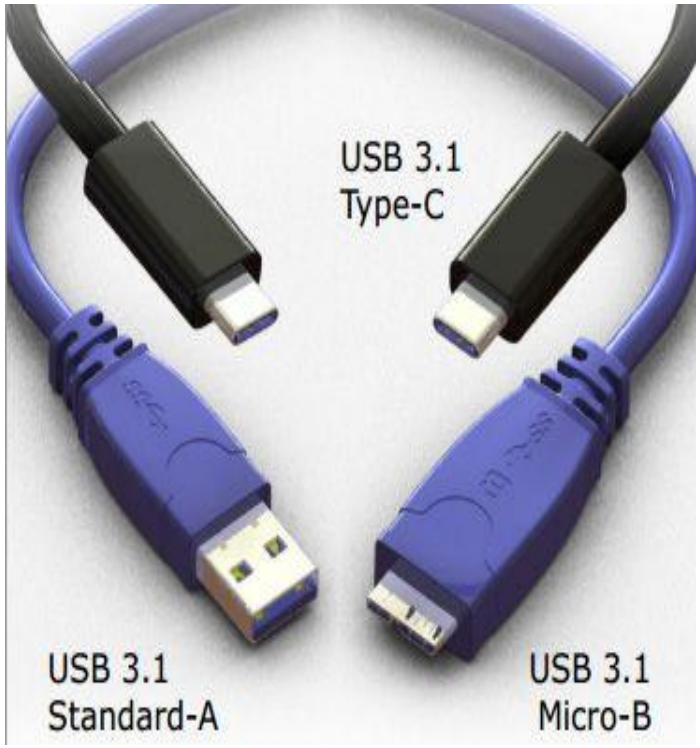
USB TYPE-C OVERVIEW AND INTERFACE & PROTECTION PRODUCTS PORTFOLIO INTRODUCTION

September, 2015

Specification Background

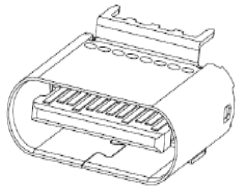
USB Type-C Standard

- Announced new connector in Dec 2013
- Rev 1.0 spec released in August 2014
  - Updated Rev 1.1 in April 2015
- Connector & Plug
  - Single plug / receptacle interface for all devices
  - Supports reversible plug-in
  - No difference between host / device ends
- Features
  - Multiple cable configurations (USB2.0 & USB3.1)
  - Scalable power configurations / Power Delivery
  - Faster data speeds
  - Supports additional signals – DP, MHL, etc.



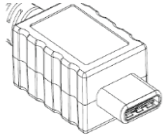
Receptacle/Plug Pinout

Receptacle



A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
GND	TX1+	TX1−	VBUS	CC1	D+	D−	SBU1	VBUS	RX2−	RX2+	GND
GND	RX1+	RX1−	VBUS	SBU2	D−	D+	CC2	VBUS	TX2−	TX2+	GND
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1

Plug



A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
GND	RX2+	RX2−	VBUS	SBU1	D−	D+	CC	VBUS	TX1−	TX1+	GND
GND	TX2+	TX2−	VBUS	VCONN			SBU2	VBUS	RX1−	RX1+	GND
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12

Features – Power

Table 4-9 Precedence of power source usage

Precedence	Mode of Operation		Nominal Voltage	Maximum Current
Highest	*USB PD*		Configurable	5 A
	USB Type-C Current @ 3.0 A		5 V	3.0 A
↓	USB Type-C Current @ 1.5 A		5 V	1.5 A
	USB BC 1.2		5 V	Up to 1.5 A
	Default USB Power	*USB 3.1*	5 V	900 mA
Lowest		*USB 2.0*	5 V	500 mA

Features – Signal Types

Signal Types
- USB 2.0
- USB 3.1
- User defined signals

CC Channel
- Connection Detection
- Identification of cable type
- Interface configuration
- Enables Vendor Defined Messages
- BMC - Power Delivery

Table 4-1 USB Type-C List of Signals

Signal Group	Signal	Description
USB 3.1	**SSTXp1, SSTXn1** **SSRXp1, SSRXn1** **SSTXp2, SSTXn2** **SSRXp2, SSRXn2**	SuperSpeed USB serial data interface defines 1 differential transmit pair and 1 differential receive pair. On a USB Type-C receptacle, two sets of SuperSpeed USB signal pins are defined to enable plug flipping feature
USB 2.0	**Dp1, Dn1** **Dp2, Dn2**	*USB 2.0* serial data interface defines a differential pair. On a USB Type-C receptacle, two set of *USB 2.0* signal pins are defined to enable plug flipping feature
Configuration	**CC1, CC2** (receptacle) **CC** (plug)	CC channel in the plug used for connection detect, interface configuration and VCONN
Auxiliary signals	**SBU1, SBU2**	Sideband Use
Power	**VBUS**	USB cable bus power
	VCONN (plug)	USB plug power
	GND	USB cable return current path

Type-C Detection

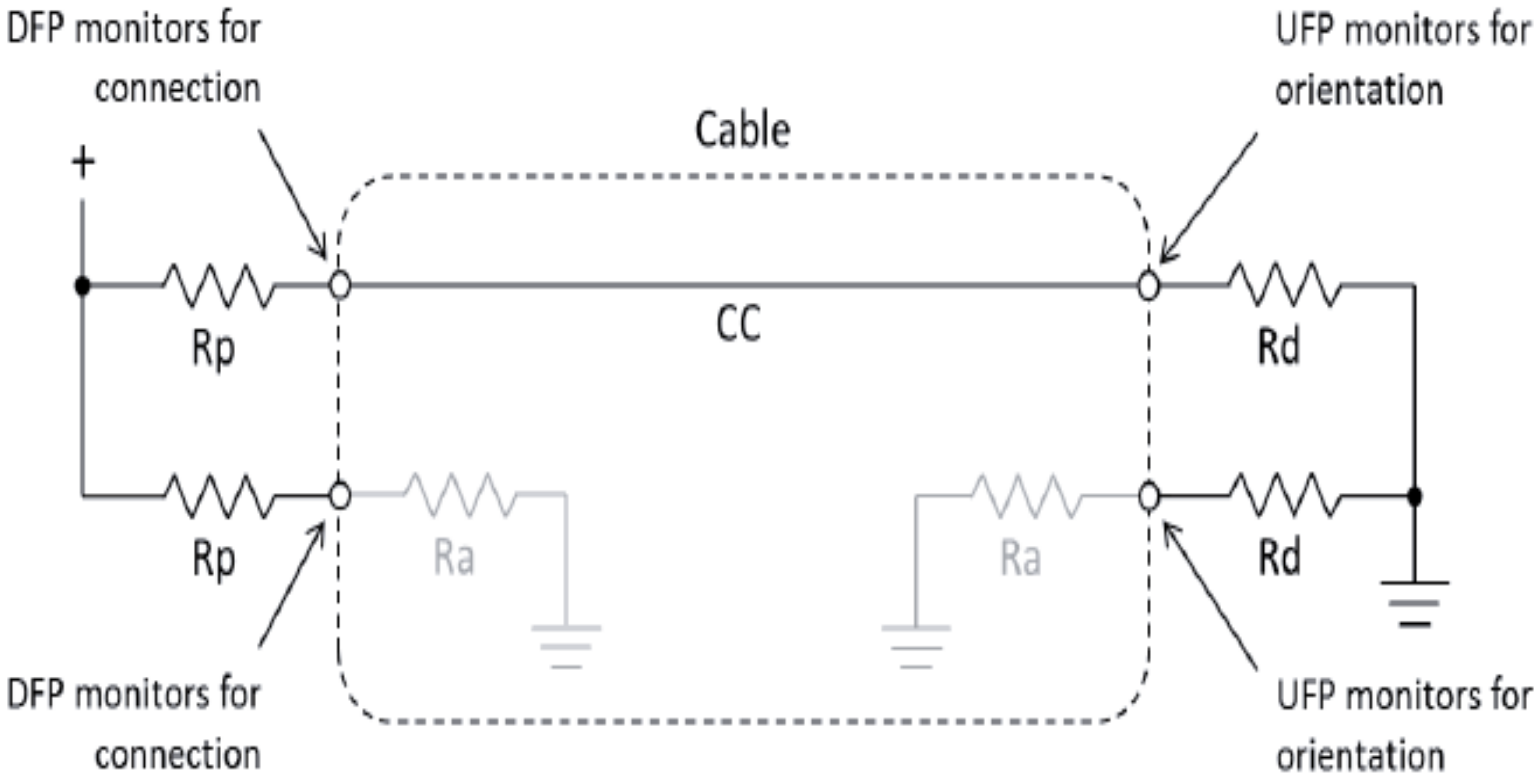
Terminology

- Type-C V1.0: UFP (Up-stream Facing Port) is what is typically called a device today. It receives charge and is the USB device, called Sink (SNK) in Type-C V1.1;

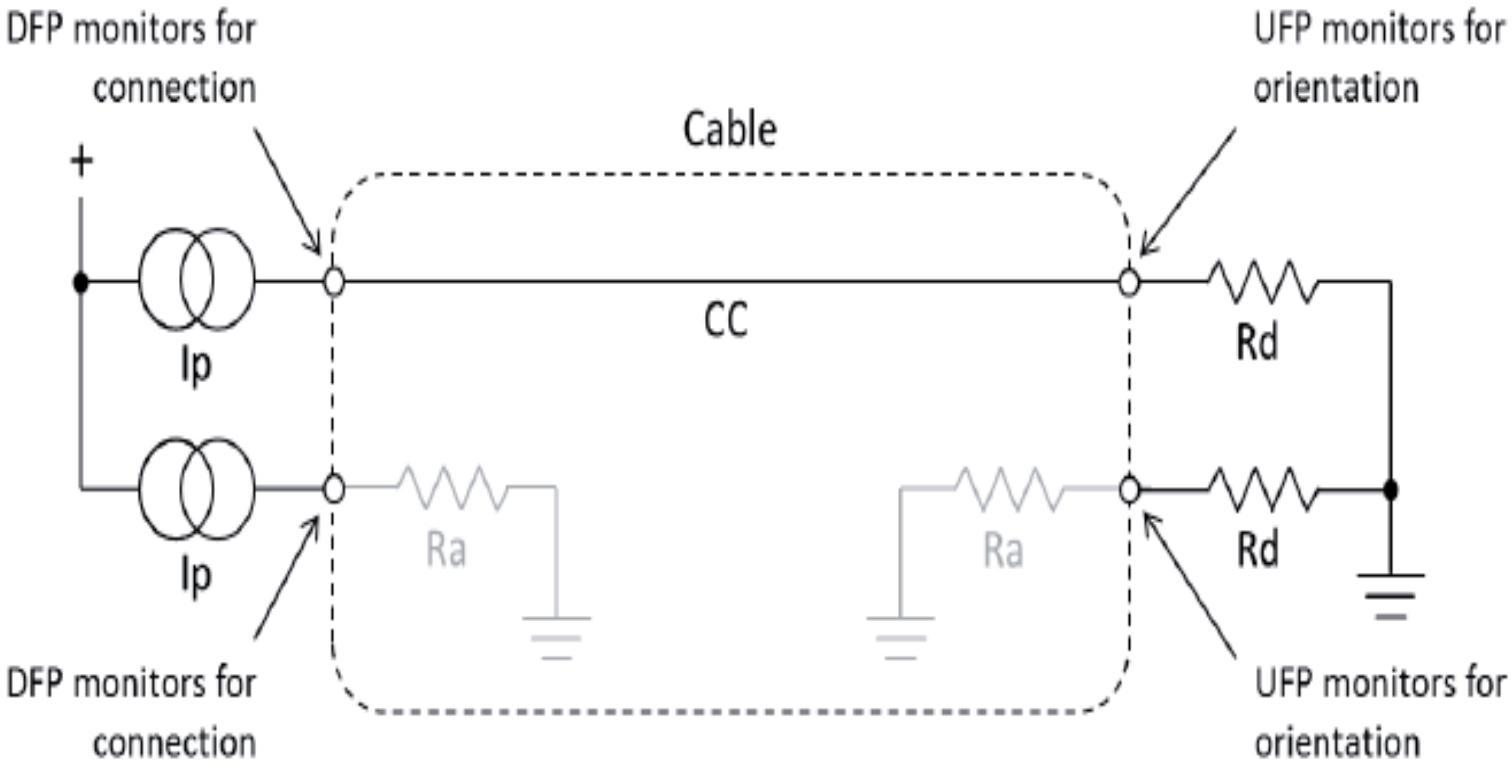
- DFP (Down-stream Facing Port) is what is typically called a host today. It provides charge and is the USB host, called Source (SRC) in Type-C V1.1;

- DRP (Dual Role Port) is capable of acting as either a UFP or a DFP. It is similar to an OTG device today which can source or sink power based on what is connected.

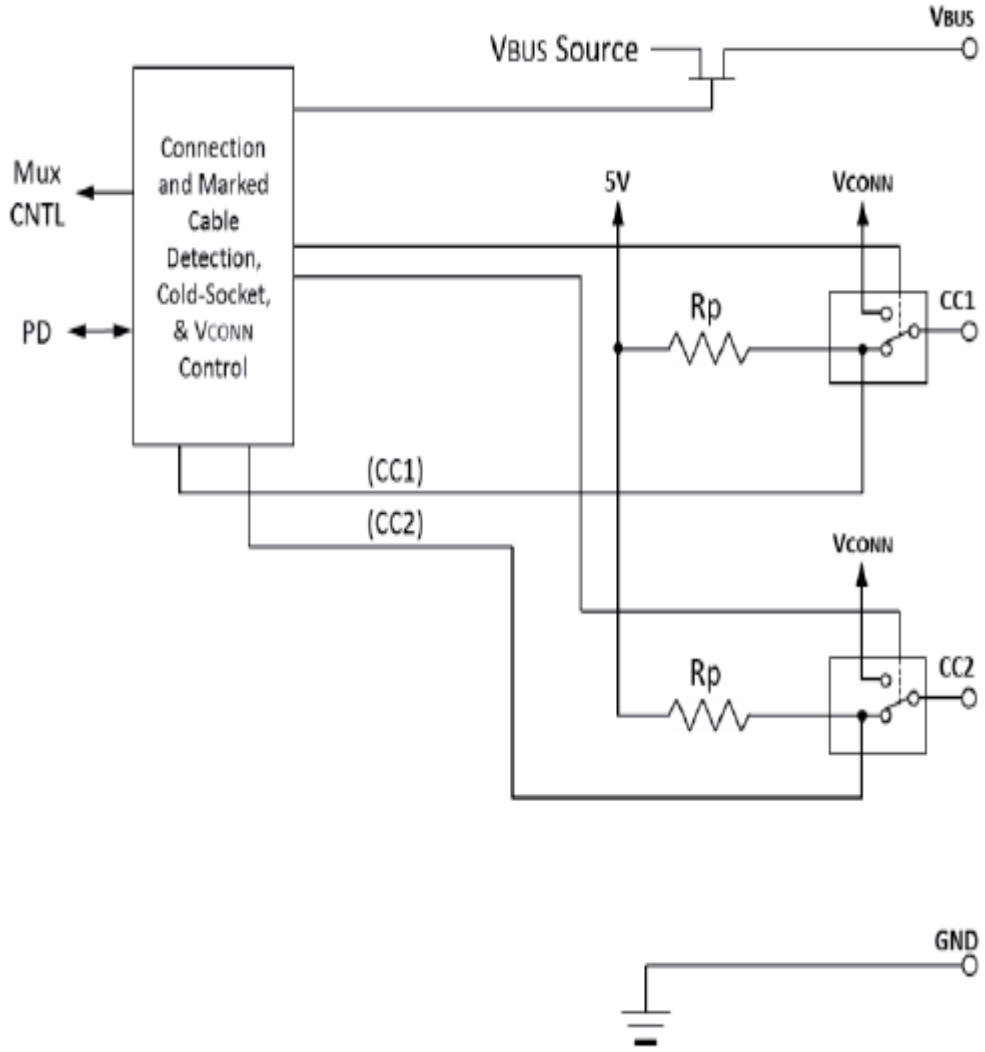
Attach/Detach Detection – Rp/Rd



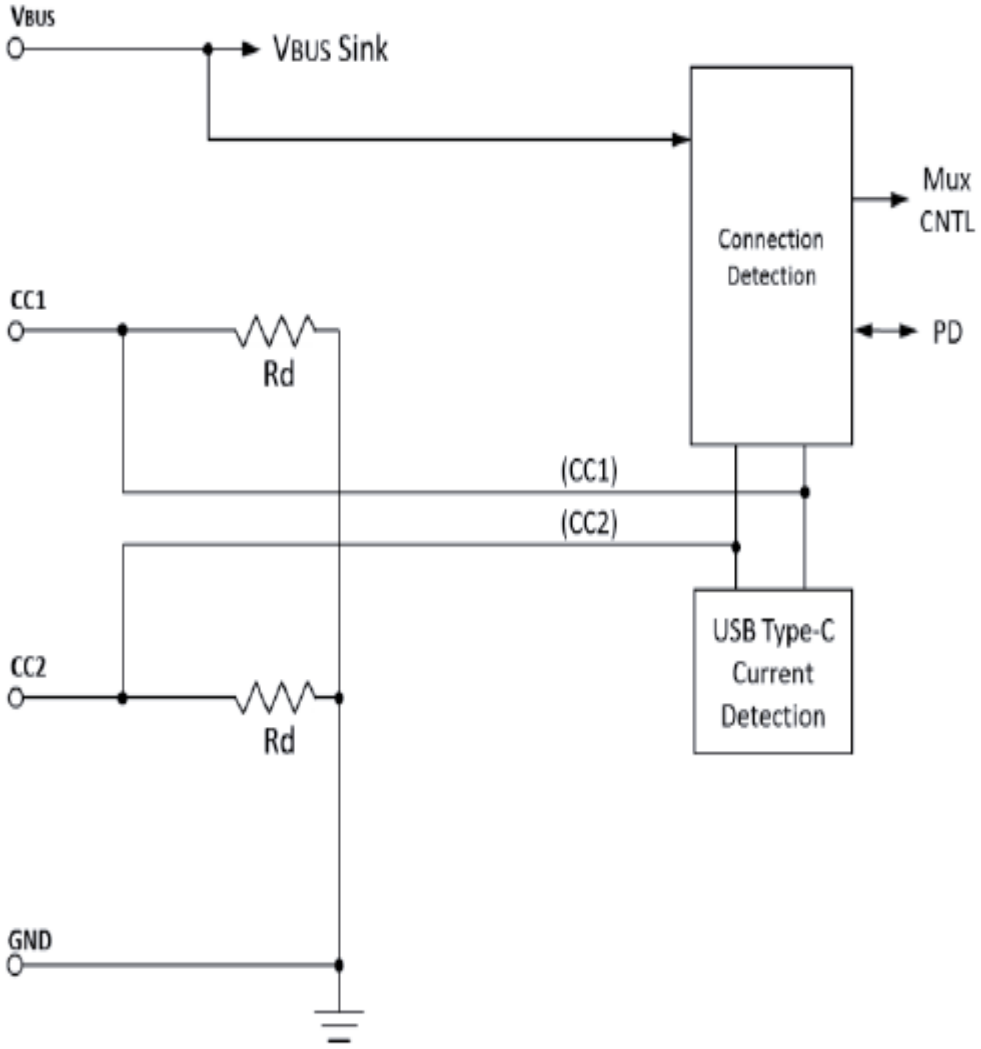
Attach/Detach Detection – Rp/Rd



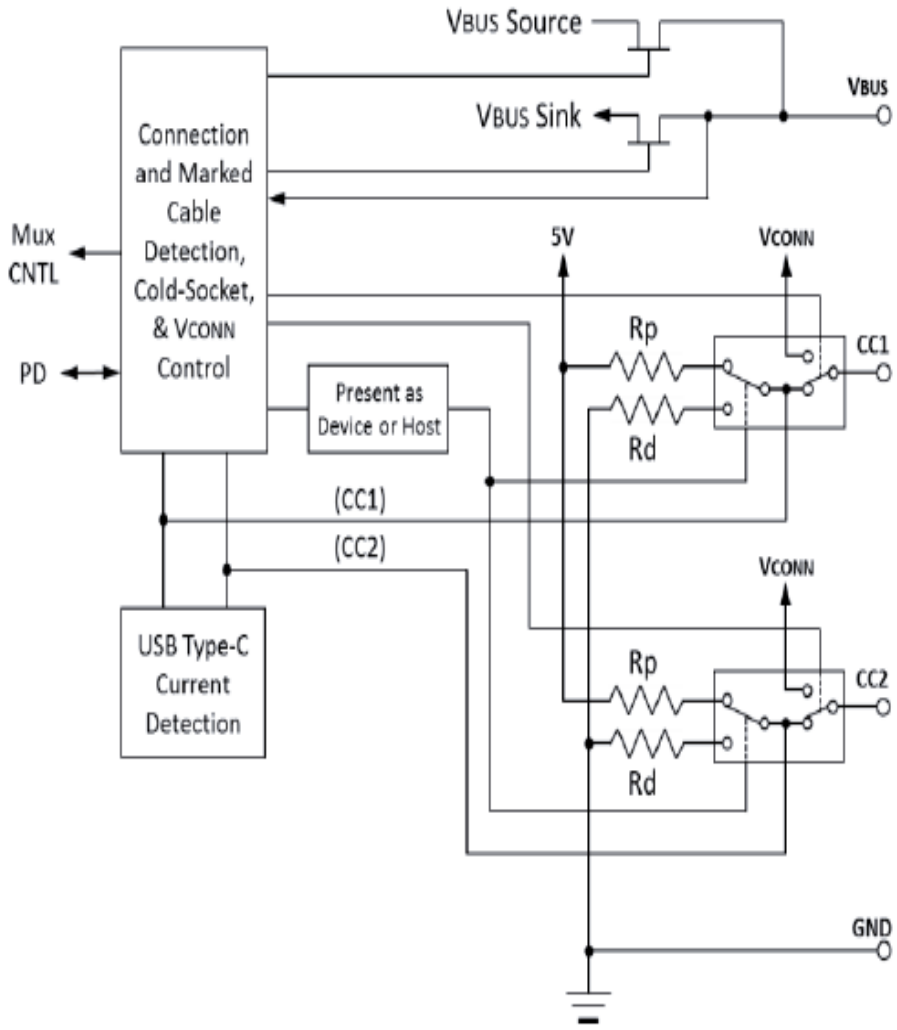
Attach/Detach Detection – Source



Attach/Detach Detection – Sink

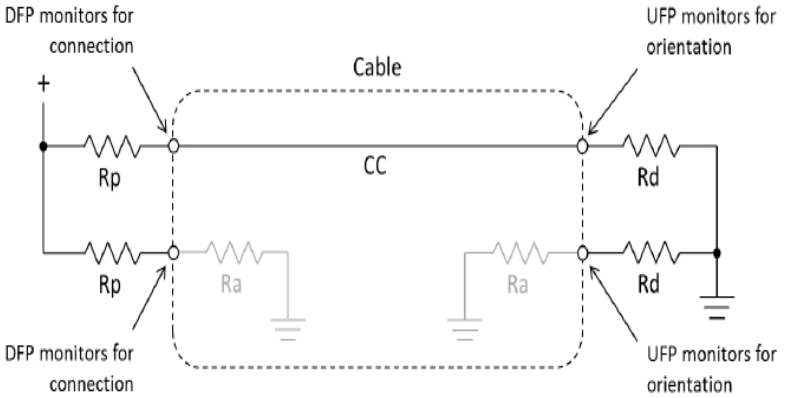


Attach/Detach Detection – DRP



Attach/Detach Detection

CC1	CC2	State	Position
Open	Open	Nothing attached	N/A
Rd	Open	UFP attached	①
Open	Rd		②
Open	Ra	Powered cable/No UFP attached	①
Ra	Open		②
Rd	Ra	Powered cable/UFP attached	①
Ra	Rd		②
Rd	Rd	Debug Accessory Mode attached (Appendix B)	N/A
Ra	Ra	Audio Adapter Accessory Mode attached (Appendix A)	N/A

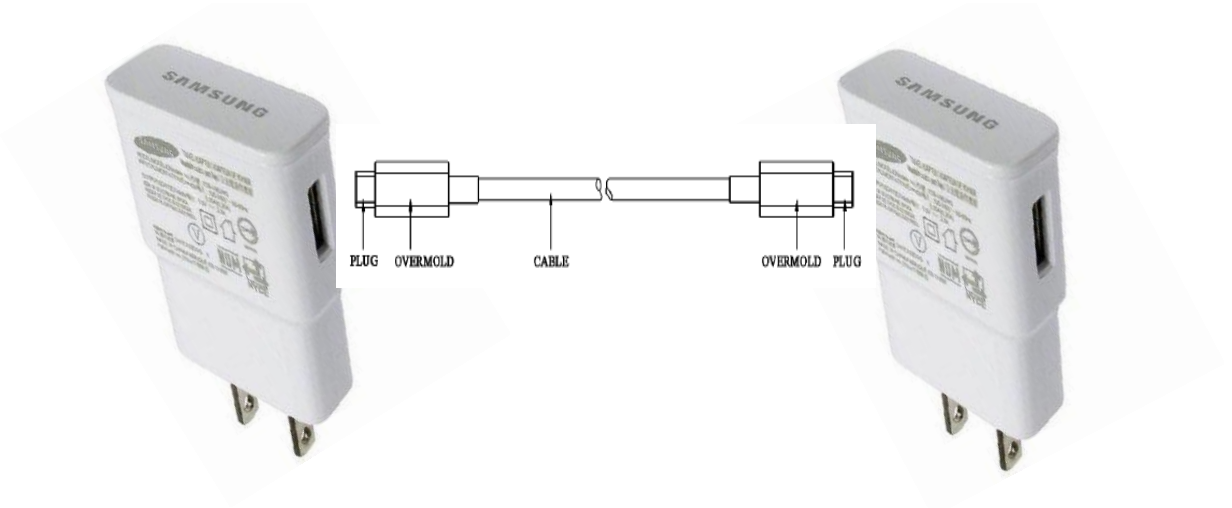


Interoperability Between Connections

Table 4-4 USB Type-C-based Port Interoperability

	DFP	UFP	DRP
DFP	Non-functional	Functional	Functional
UFP	Functional	Non-functional	Functional
DRP	Functional	Functional	Functional*

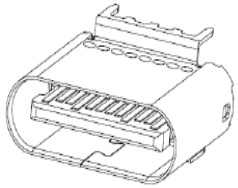
* Resolution of roles may be automatic or manually driven



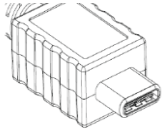
Type-C Orientation

Receptacle/Plug Pinout

Receptacle



A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
GND	TX1+	TX1−	VBUS	CC1	D+	D−	SBU1	VBUS	RX2−	RX2+	GND
GND	RX1+	RX1−	VBUS	SBU2	D−	D+	CC2	VBUS	TX2−	TX2+	GND
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1

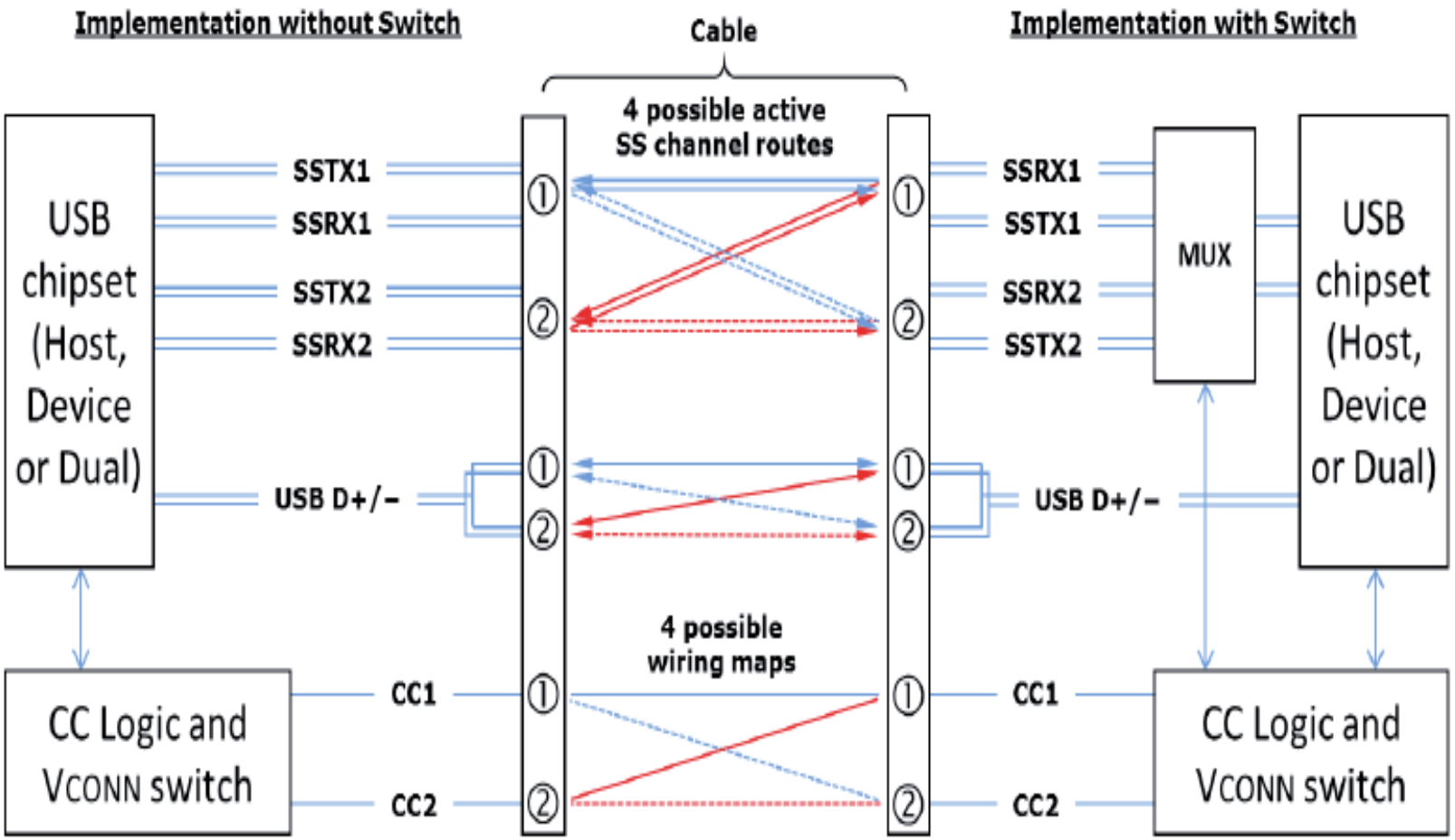


Plug

A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
GND	RX2+	RX2−	VBUS	SBU1	D−	D+	CC	VBUS	TX1−	TX1+	GND
GND	TX2+	TX2−	VBUS	VCONN			SBU2	VBUS	RX1−	RX1+	GND
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12

SuperSpeed Switching Requirements

Figure 4-3 Logical Model for Data Bus Routing across USB Type-C-based Ports



FAIRCHILD™

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Interface & Protection Products Portfolio Intro

Interface & Protection Products

USB Switch

Product portfolio:
- Type-C control: FUSB300 / 1 / 2
- Type-C high speed switch: FUSB340
- Type-C re-driver: FUSB32x
- Integration of type-C solution
- Integration of type-C / MUS

Applications:
- Mobile and beyond

2015 Focus:
- Execute type-C roadmap

Analog Switch

Product portfolio:
- Audio switch: FSA2269 /2275
- MIPI switch: FSA642 /644
- Translator: FXMA2102
- Reset timer: FTL75939
- Other catalog signal switches

Applications:
- Mobile and beyond

2015 Focus:
- Execute FSA2275
- Execute other roadmap products

Power Switch

Product portfolio:
- Slew rate load switch: FPF1039 /1204 /1048 /1504
- Over current protection (OCP): FPF2195 / 2495
- Over voltage protection (OVP): FPF2280 / 2290 / 2488
- Type-C for Vbus / PD / TA

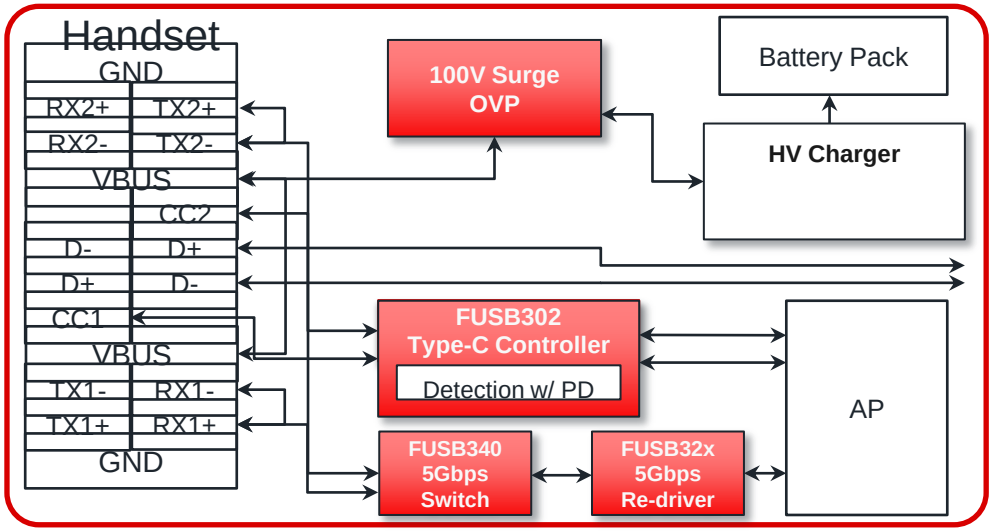
Applications:
- Mobile and beyond

2015 Focus:
- Execute type-C definitions
- Execute other roadmap products

Fairchild USB Switch Product Line
Type-C Solutions

Benefits of Fairchild Type-C Solutions

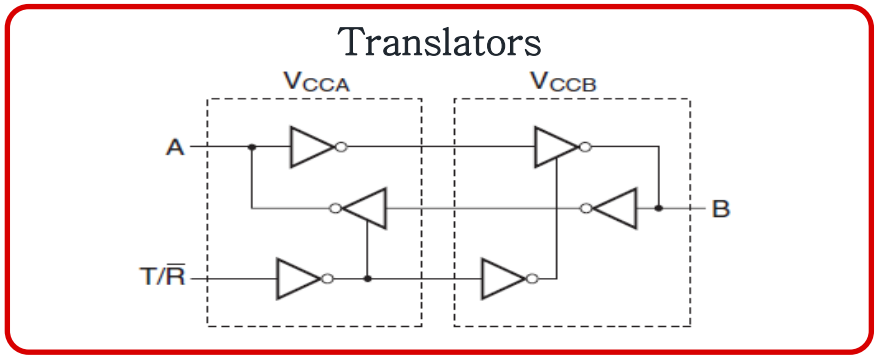
1. Flexible to accommodate standard changes
2. Low power: <20 uA standby
3. DFP, UFP, DRP role support
4. Active cable detection and power support
5. Thin USB PD interface for adaptive charging and vendor defined messages
6. Audio and Debug Accessory Detection
7. Small size solutions in WLCSP and MLP, as low at 1.2 x 1.2 mm

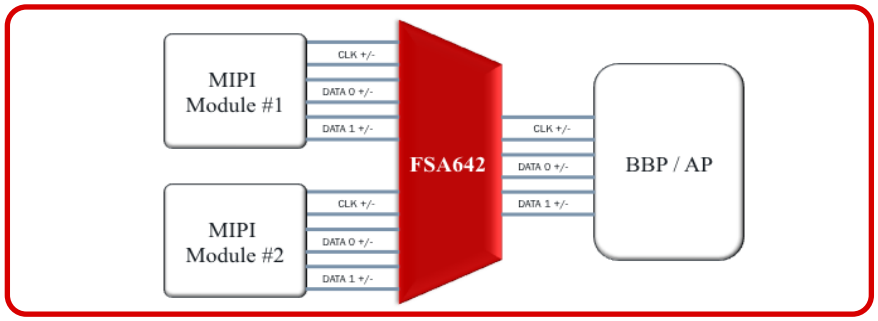


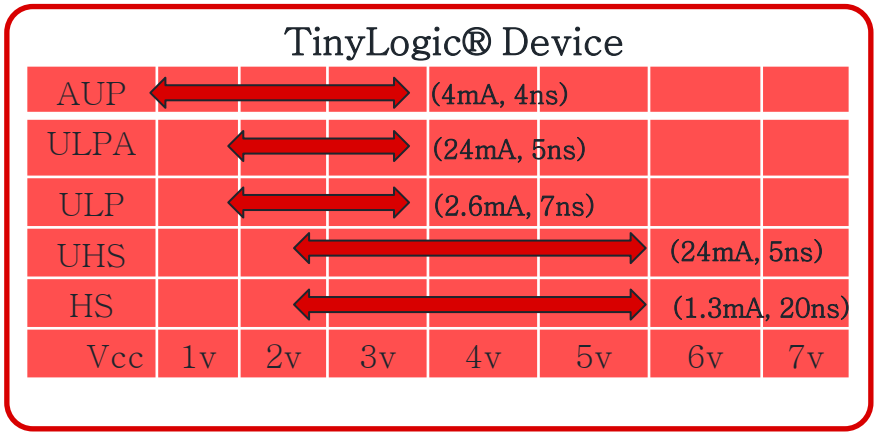
PN	Key Features	Successful Applications	Status
FUSB300C	• Type-C detection and control logic	Basic Type-C interface	Production
FUSB301/A	• Autonomous Type-C detection • Low power : standby – 20 uA, disabled 2uA max	Type-C interface w/o PD	Mass Product in 3Q15
FUSB302	• Auto DRP toggle, additional PD control /Type-C features for lower standby power	Interface with Type-C and Power Delivery (PD)	Mass Product in 3Q15
FUSB340	• 5Gbps 2:1 high bandwidth in a small form factor (2.0x2.8mm) • Low power (11 uA)	Phones supporting USB3.1 SuperSpeed	Mass Product in 3Q15
FUSB3301	• DFP only auto CC detection and control logic • Selectable host current (0.9A, 1.5A, 3.0A)	Simple low cost Type-C compliant solution for 15W Travel Adaptors and other DFP only applications	Mass Product in 3Q15

Fairchild Analog Switch Product Line

PN	Function	Winning Applications
FSA2268T	Audio Switch	SPDT 2x
FSA2467	Audio Switch	DPDT
FSA2269	Audio Switch	True GND (negative swing), click/pop
FSA2275	Audio Switch	Truce GND (negative swing), ultra low THD, small footprint
FSA642	MIPI switch	MIPI CSI and DSI Interface Switching
FSA644	MIPI Switch	Hi-Res (>8MP) Front and Rear Facing Cameras
FXMA2102	Translator	I^2C Translator
FXL5T244	Translator	5-bit uni-directional general translator
FTL75939 / FTL11639	Reset Timer	Programmable reset timer delay Integrated low RdsON load switch Non-removable battery in mobiles
FT7521	Reset Timer	General purpose reset timer
FT8010	Reset Timer	General purpose reset timer
NC7SZ74	TINY Logic	Ultra High Speed – 2.6ns tPD D Flip-Flop w/ Preset and Clear
NC7SZ08	TINY Logic	Ultra High Speed – 2.7ns tPD Two-Input AND Gate
NC7WZ14	TINY Logic	UHS Dual Inverter with Schmitt Trigger Inputs

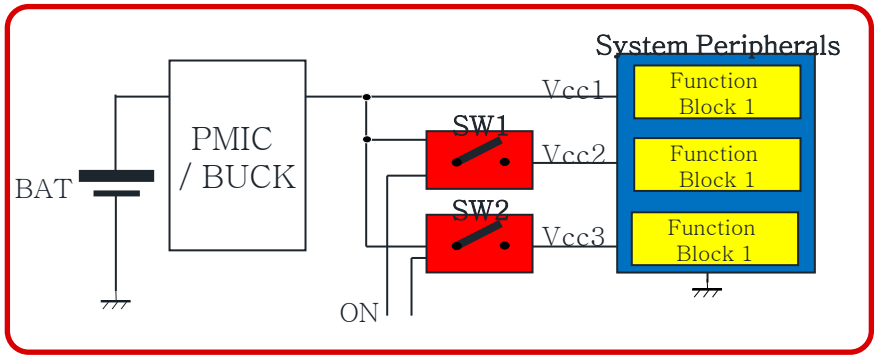


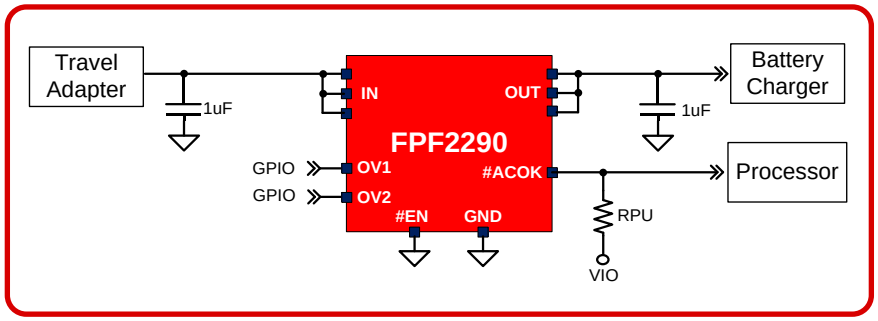


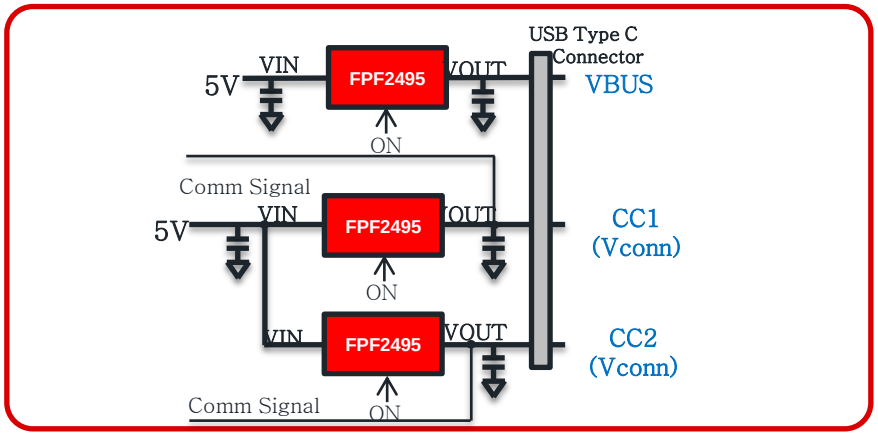


Fairchild Power Switch Product Line

PN	Function	Winning Applications
FPF1038/9	Load Switch	Power path management
FPF1048	Load Switch	Power path management
FPF1203/4/45	Load Switch	Smallest footprint, power sequence, leakage current reduction
FPF1504	Load Switch	Power sequence, IO rails
FPF2411	Load Switch	Battery isolation, embedded battery
FPF2498	OVP	Down stream protection
FPF2280/1	OVP/Surge	Down stream protection
FPF2290	OVP/Surge	Down stream protection, type-C/PD OVP (5V/9V/12V/20V), accurate OVP +/-2%
FPF2487/8	OVP/Surge	Two channel down stream protection, factory test mode
FPF2195	OCP	USB OTG / HDMI Finger print sensor module
FPF2495	OCP	USB OTG / HDMI Host side VBUS with Type C Vconn with Type C
FPF2496	OCP	Device side VBUS with Type C USB powered accessory
FPF2165R	OCP	USB OTG /HDMI in consumer Input power path in USB dongle







Fairchild Type-C Products

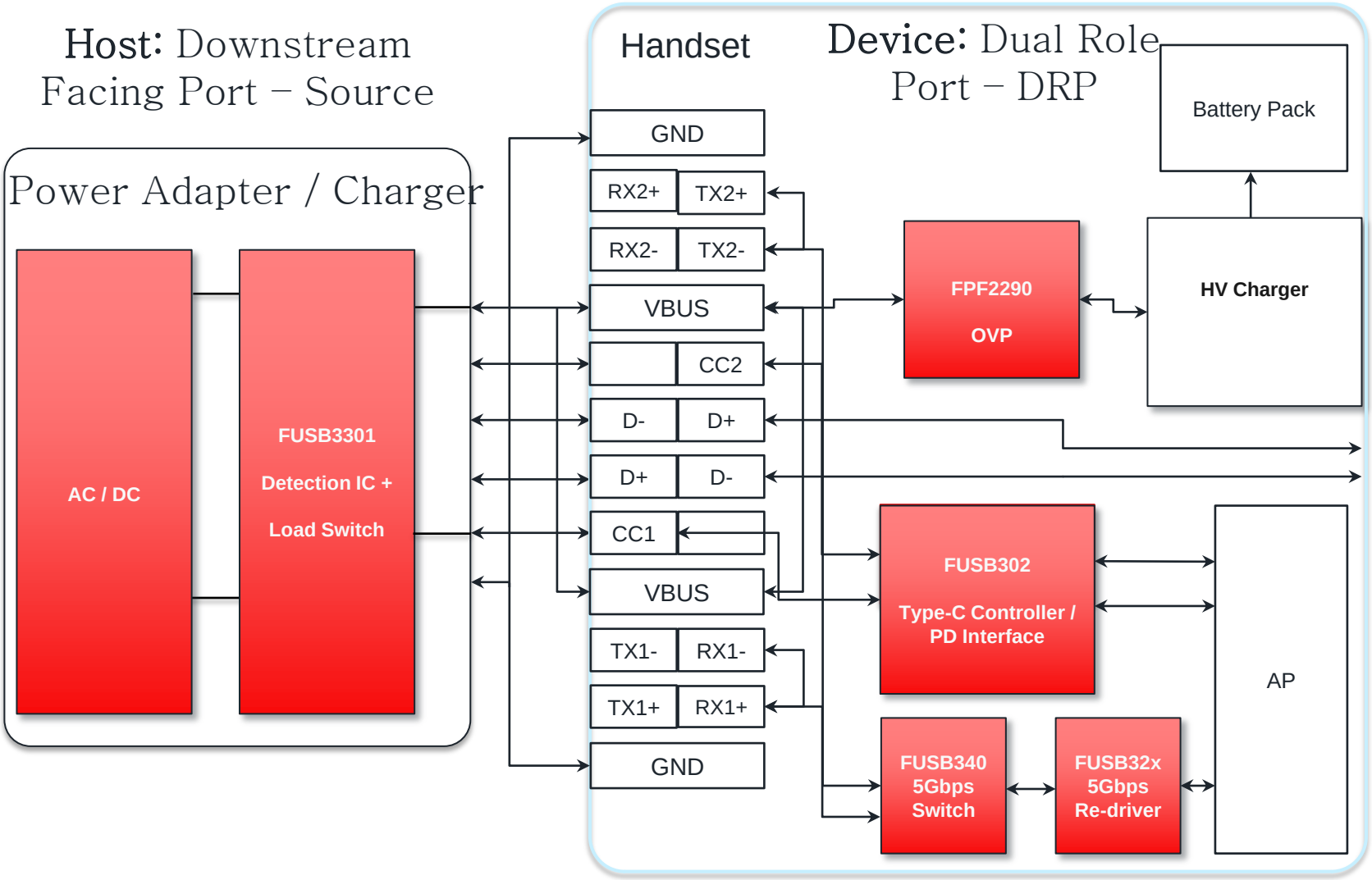
The Buzz is Now Reality

NoteBook
- Announced in 2015
- 1 Type-C Only

Netbook
- Announced in 2015
- 2 Type-C, 2 Type-A

Smartphone
- Announced in 2015
- Type-C Only
- First FUSB300 design WIN

Architecture - DFP to DRP (USB 3.1)



Fairchild Type-C DRP Controllers

FUSB300C – Programmable USB Type-C Controller

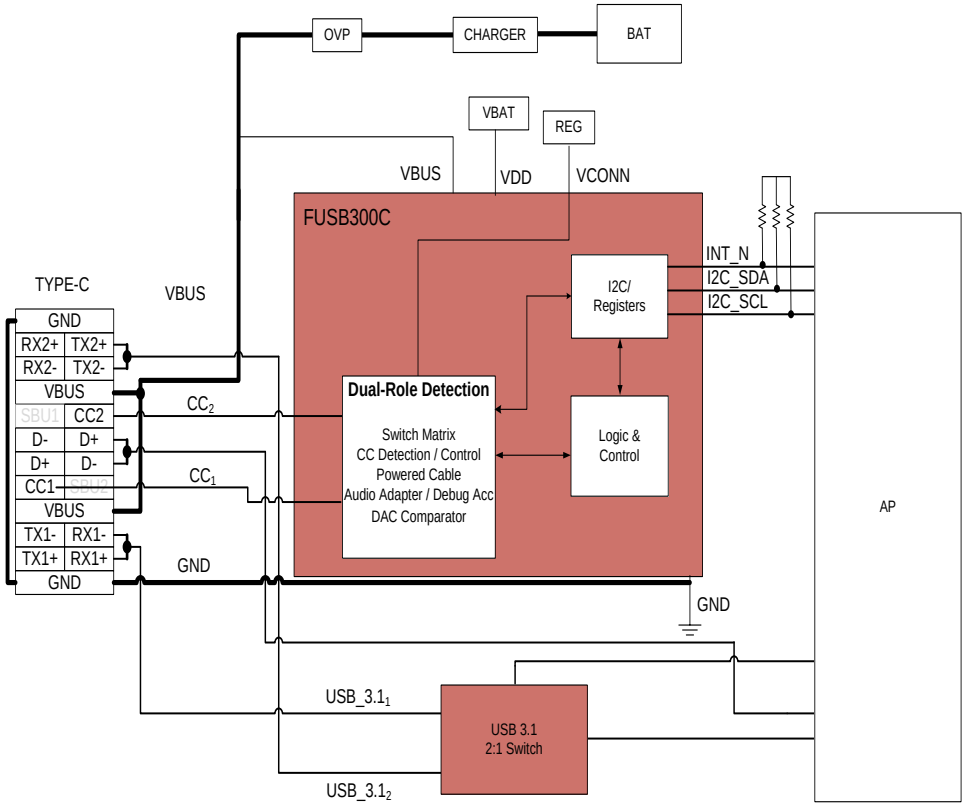
FUSB300C – USB Type-C Interface Detection and Orientation Configuration

Value Proposition:

- Flexible solution for the required USB Type-C connector detection based on proven IP

Features:

- DFP, UFP, DRP Role support
- Dual-Role functionality
- CC detection and control logic
- Active cable detection and power support
- Audio and Debug Accessory Detection
- 9-ball WLCSP (1.215 x 1.215mm)



In Production

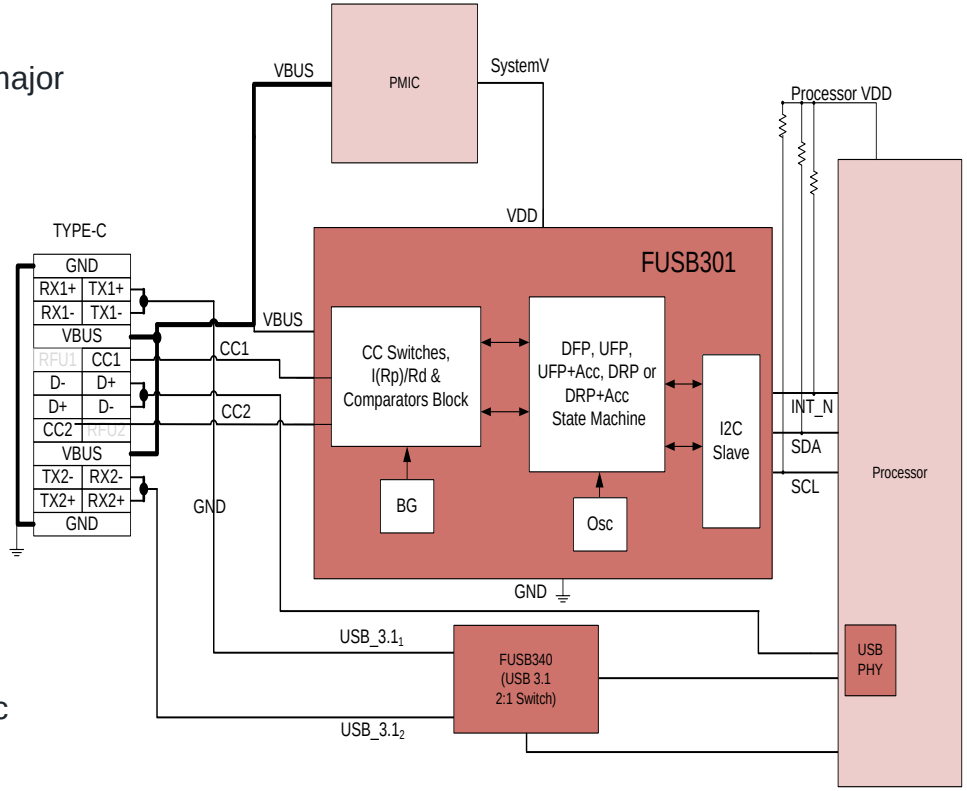
FUSB301(A) – Autonomous USB Type C Controller

Value Proposition

- Discrete solution for fast DRP Type-C adoption without major architectural changes
- Includes full attach state machine to minimize software interaction

Key Control Features

- Dual-Role functionality
  - DFP (downstream facing port)
  - DFP with Accessory
  - UFP (upstream facing port)
  - UFP with Accessory
  - DRP (dual role port)
  - DRP with Accessory
- I^2C Communication
- Communication Channel (CC) detection and control logic
- Non-A version: 10-ld TMLP (1.2mm x 1.6mm x 0.4mm)
- A version: 12-ld TMLP (1.6mm x 1.6mm x 0.4mm)



Samples Now!

Fairchild FUSB301(A) Introduction

- The FUSB301(A) offers superior performance for mobile applications.
  - As much as 20x improvement in standby current when operating as an unattached DRP
  - 28V tolerant VBUS sense with no external components.
  - Dead Battery Support, configures as a SINK (UFP) with 0V V_{DD}
- Designed to compete directly with other components found in the Qualcomm reference schematic.
- Fully P2P compatible when in I^2C mode.

Type-C MODE	Current (TYP) @ VDD = 3.3V
Dead Battery (Unattached SINK)	0uA
Disable	0.32uA
Unattached SINK	2.9uA
Unattached SINK + Accessory	5.0uA
Unattached DRP	5.0uA
Attached SINK	5.5uA
Unattached SOURCE	6.3uA

Differences between FUSB301A and Competitors

- PORT PIN
  - Used to detect port type (DRP, SOURCE, SINK) when in GPIO mode.
  - Not used in I^2C mode. Port type is set with I^2C register.

- ENB
  - Device enable used to reduce power consumption.
  - FUSB301A only uses 5uA typical when configured as a DRP so device enable is not required.
  - FUSB301A can be put in a disable mode via the I^2C register (340nA Istandby)

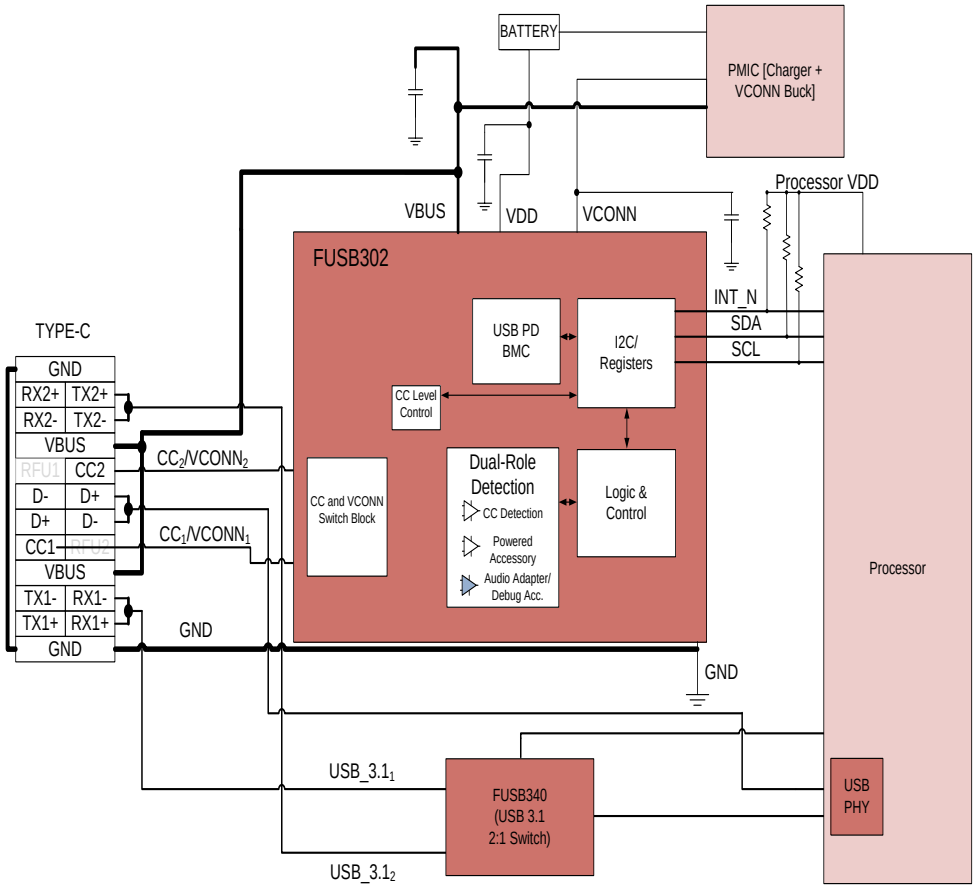
FUSB302 – Programmable USB Type C Controller w/PD

Value Proposition

- Discrete solution for fast DRP Type-C adoption without major architectural changes
- Includes DRP Toggle, Good CRC Generation, Auto Retry, Hard and Soft Reset functions to minimize software interaction for time critical transactions.

Key Control Features

- Dual-Role functionality – Host & Device
- Communication Channel (CC) detection and control logic
- Automatic PD packet response
- 9-ball WCSP (1.215mm x 1.260mm)
- MLP 14 lead (2.5mm x 2.5mm) with 0.5mm pitch.



In Production

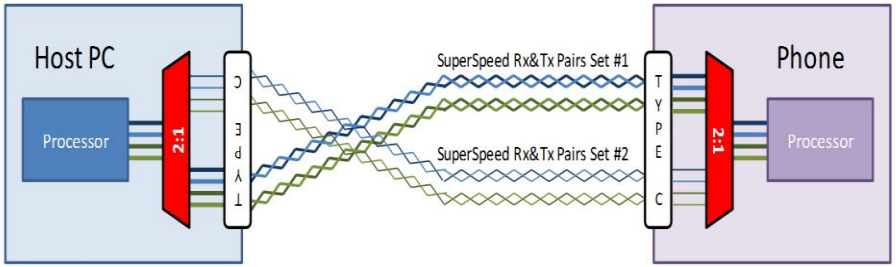
Fairchild Type-C Switches and Redrivers

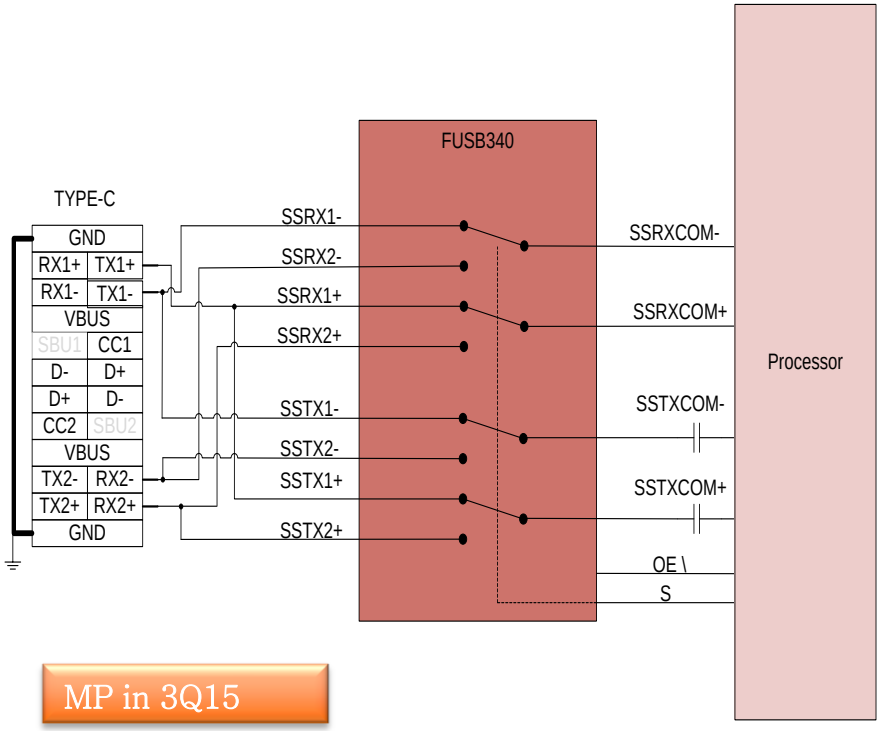
FUSB340 - 10Gbps Switch

FUSB340 – USB 3.1 – 10Gbps 2:1 USB Switch

Value Proposition:
- Small discrete solution for the required Type-C USB3.1 connector reversibility for phones, tablets, laptops.

Features:
- USB 3.1 – 10Gbps
- 10GHz bandwidth
- VDD: 1.5V – 5.0V
- 2KV HBM ESD protection
- -1dB Insertion Loss @ 2.5GHz
- Low Active Power < 12uA
- Low Power shutdown < 1uA
- 18-lead TMLP, 0.4mm pitch (2.0mm x 2.8mm x0.4mm)





MP in 3Q15

FUSB32x - Tx Re-driver

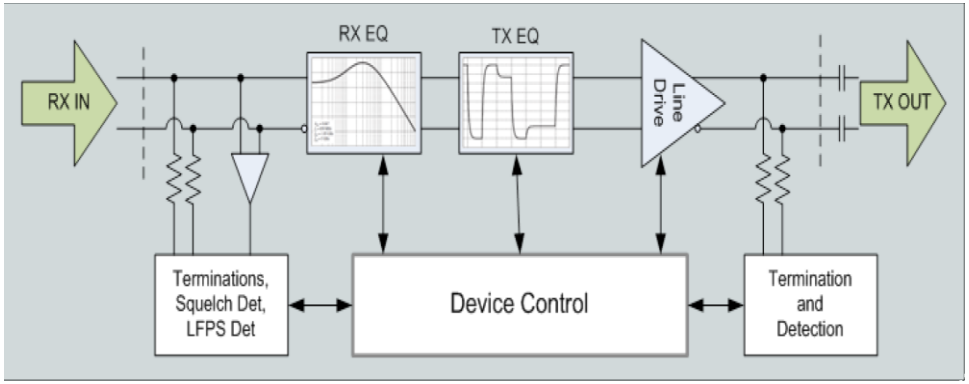
FUSB32x – USB 3.1 – 5Gbps USB Re-Driver

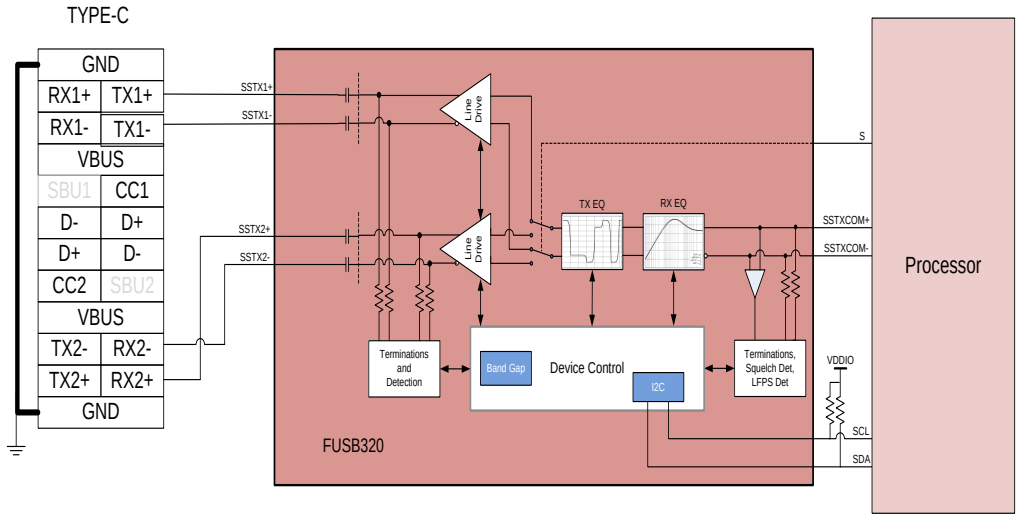
Value Proposition:

- 1:2 solution for USB 3.1 signal transmission
- Compensates for designs that require flex and/or longer PCB traces

Features:

- USB3.1 - 5Gbps
- Low Power shutdown < 1uA
- Output Swing: 1Vpp, 1.2Vpp
- Equalization
  - RX 0 to 15dB (CTLE)
  - TX 0 to -6dB (De-emphasis)
- 2KV HBM



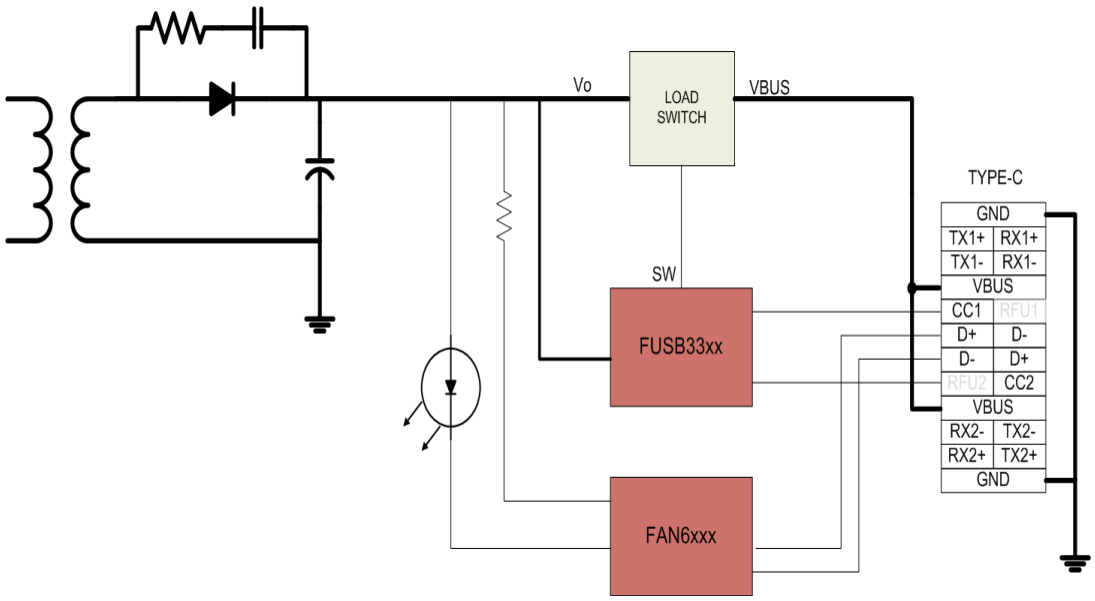


MP in 1Q16

Fairchild Type-C Controllers for TA

Type-C System Solution for TA

- The FUSB3301 family are autonomous Source only (downstream facing port) Type-C controllers for applications requiring 3A of current or less.
- There is a selectable advertised Host Current (900mA, 1.5A, 3A) which is broadcast on CC1 and CC2.
- An integrated VBUS switch is available with R_{DSON} as low as 10mΩ.
- The FUSB3301 and load switch prevent VBUS from being asserted until a valid attach has been detected. This is a requirement for using a Type-C connector on a Source (Host)

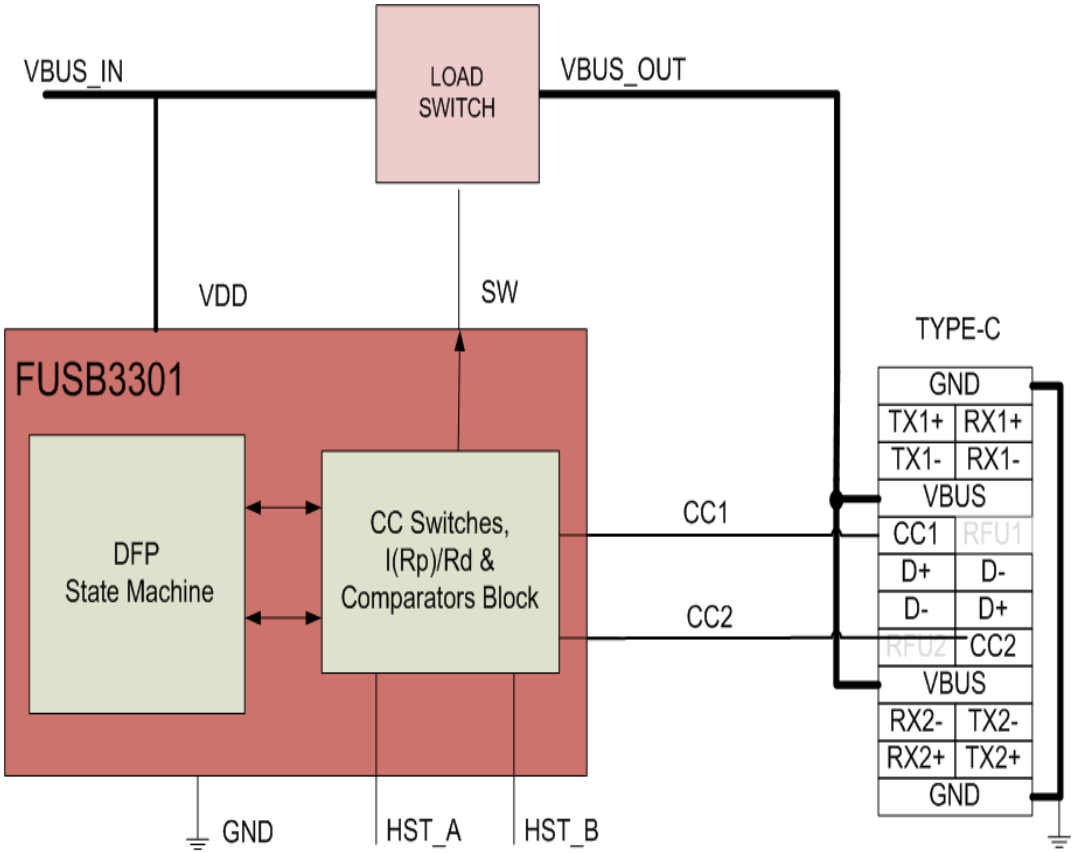


5V Source Only Type-C Controller for TA

FUSB3301 – Autonomous Type-C Source

Value Proposition:
Enables a simple low cost Type-C compliant solution for 15W Travel Adaptors

Features:
- Auto CC detection and control logic
- Selectable Host Current (900mA, 1.5A, 3.0A)
- Load Switch Enable Output
- 10-ld TMLP – 0.5mm pitch
  3.0mm(W) x 3.0mm(L)

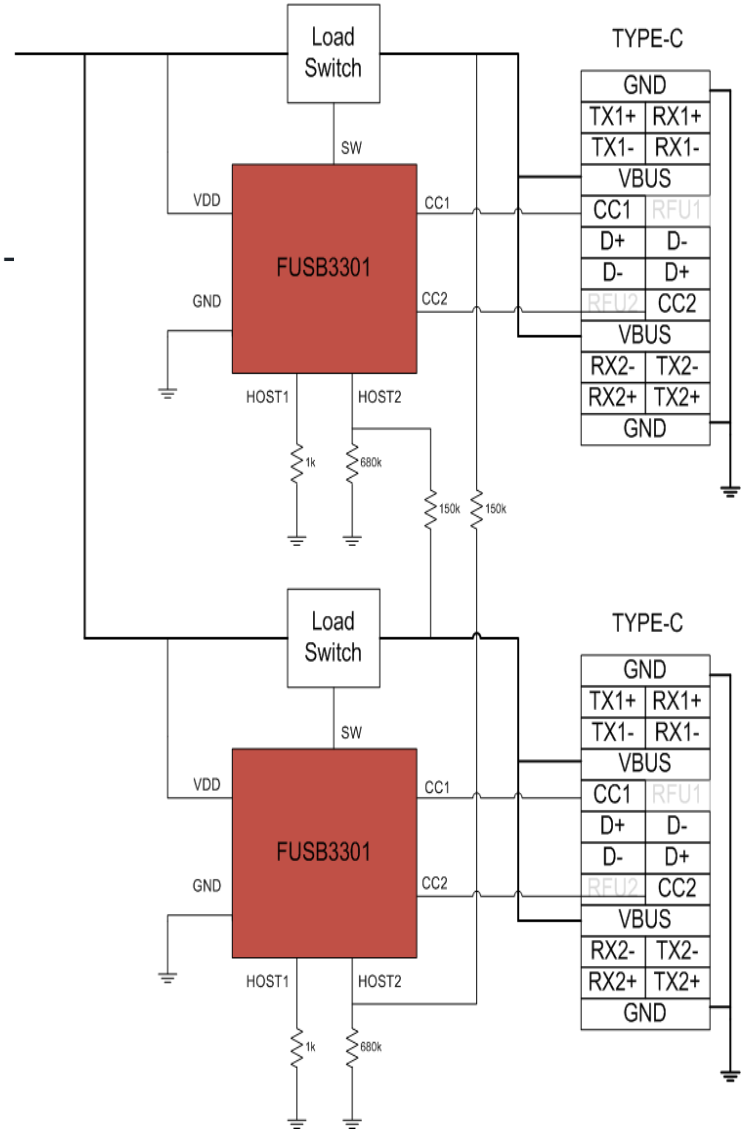


MP in 3Q15

15W Dual Type-C Port Application Example

- Application for home wall outlets, aftermarket automotive chargers, travel chargers and multi-port power bank.
- Competitor part can not change host current after attach.

- When not attached both ports advertise 5V/3A
- When one port is attached it advertises 5V/3A while the unattached port advertises 5V/1.5A
- When both ports are attached each will advertise 5V/1.5A



Interface & Protection Products

USB Switch

Product portfolio:
- Type-C control: FUSB300 /1/2
- Type-C high speed switch: FUSB340
- Type-C re-driver: FUSB320
- Integration of type-C solution
- Integration of type-C / MUS

Applications:
- Mobile and beyond

2015 Focus:
- Execute type-C roadmap

Analog Switch

Product portfolio:
- Audio switch: FSA2269 /2275
- MIPI switch: FSA642 /644
- Translator: FXMA2102
- Reset timer: FTL75939
- Other catalog signal switches

Applications:
- Mobile and beyond

2015 Focus:
- Execute FSA2275
- Execute other roadmap products

Power Switch

Product portfolio:
- Slew rate load switch: FPF1039 /1204 /1048 /1504
- Over current protection (OCP): FPF2195 / 2495
- Over voltage protection (OVP): FPF2280 / 2290 / 2488
- Type-C for Vbus / PD / TA

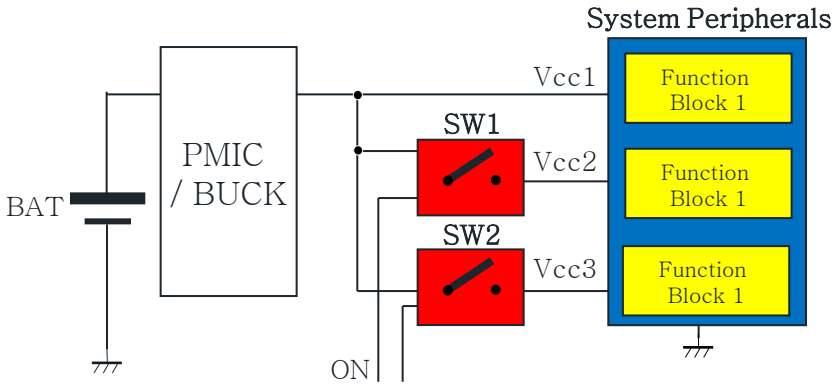
Applications:
- Mobile and beyond

2015 Focus:
- Execute type-C definitions
- Execute other roadmap products

Fairchild Slew Rate Controlled Switches

Benefits with load switches in system

1. Power path management & distribution
2. Power sequence
3. Leakage current reduction
4. Inrush current control
5. Power down control
6. Protection function
7. Reduced BOM count and PCB area

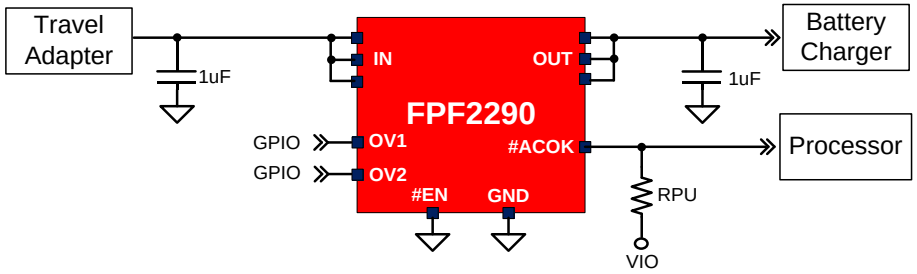


PN	Key Features	Successful Applications	Function
FPF1038/9	6V/3.5A 20mΩ switch in 1x1.5 WL-CSP	Power path for PA or PMIC	Power path management
FPF1048	6V/3A 23mΩ uni-directional w/ TRCB in 1x1.5 WL-CSP	Charging power path Factory test path	Power path management
FPF1203/4/45	6V/2.2A 55mΩ switch in 0.76x0.76 WL-CSP 1uA shutdown current	Smallest footprint Load switch for module	Power sequence Leakage reduction
FPF1504	4V/1.5A 15mΩ switch in 1x1 WL-CSP	1V rail; 1.8V I/O rail	Power sequence
FPF2411	6V/6A 11mΩ bi-directional switch w/ RCB in 1.3x1.7 WL-CSP	Embedded battery 3.3V/5V system rails in Computing	Battery isolation Power path management

Fairchild OVP/Surge Protections

Benefits with OVP/Surge switches in system

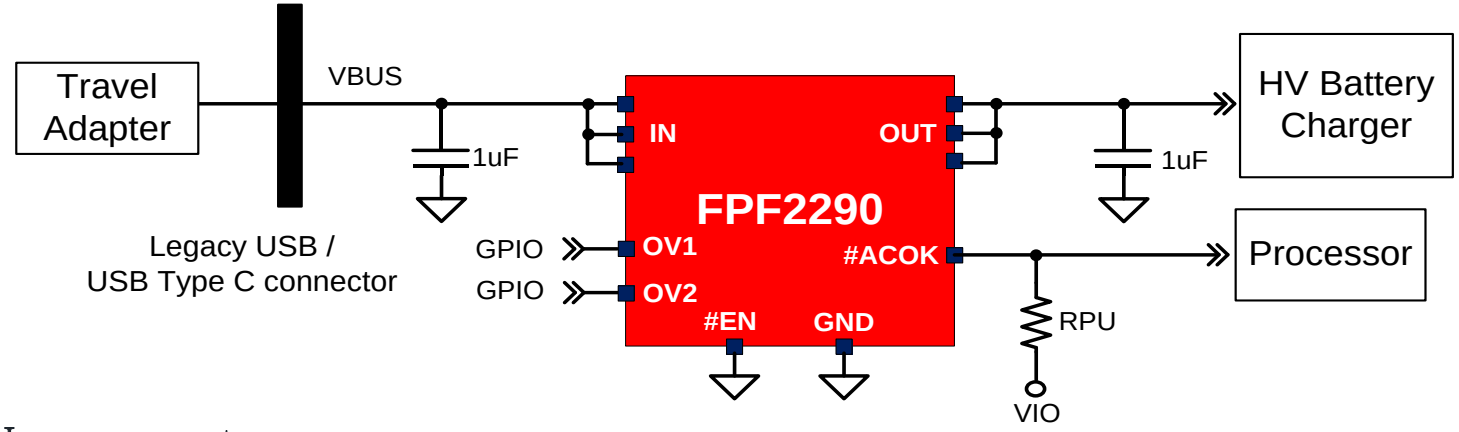
1. Downstream system protection against surge and inductance induced peak voltage
2. Reliable system design
3. Cost effective & high performance charger without OVP block
4. Reduced BOM count and PCB area



PN	Key Features	Successful Applications	Function
FPF2498	28V/1.5A 80mΩ ADJ OVP switch in 1x1.3 WL-CSP	Simple & small OVP of ~12V	Downstream protection
FPF2280/1	29V/4.5A 30mΩ ADJ OVP w/ 100V TVS in 1.3x1.8 WL-CSP	Adaptive charging and OTG path QC 2.0 (5V/9V) USB Type C & PD (5V/12V/20V)	Power path management Downstream protection
FPF2290	29V/4.5A 33mΩ SEL OVP w/ +/-100V TVS in 1.3x1.8 WL-CSP Accurate OVP tolerance of +/-2%	Adaptive charging and OTG path QC 2.0 (5V/9V) USB Type C & PD (5V/12V/20V)	Power path management Downstream protection
FPF2487/8	Dual CH OVP Switch in 1.6x2.2 WL-CSP 28V/2.5A 33mΩ switch w/ +/-100V TVS 6V/6A 10mΩ switch w/ +/-40V TVS & RCB	Adaptive charging & OTG path QC 2.0 (5V/9V) Factory test path	Power path management Downstream protection Reverse current protection

FPF2290BUCX

Selectable OVP with High Accuracy



Improvement

Easy and simple to set OVLO level in line with QC 2.0 and USB type C with PD

Both positive and negative 100V surge capability

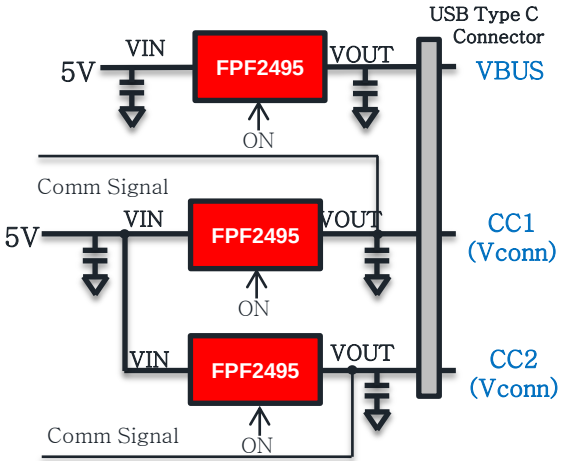
Better OVP accuracy

OV1	OV2	OVP Trip Level	Application
LOW	LOW	5.9V +/- 100mV	Legacy 5V charging system with 6V rated battery charger / PMIC (Wearable devices)
HIGH	LOW	10V +/- 100mV	9V fast charging system
LOW	HIGH	14V +/- 280mV	12V USB Type C w/ PD
HIGH	HIGH	23V +/- 460mV	20V USB Type C w/ PD

Fairchild OCP Switches

Benefits with OCP switches in system

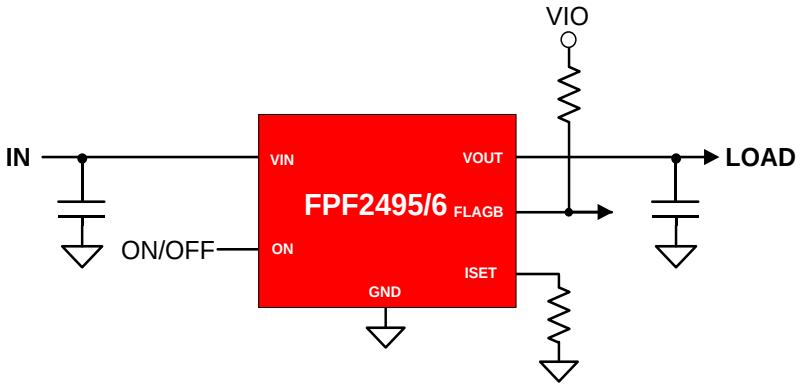
1. Upstream system protection against reverse current and short circuit event
2. Reliable system design

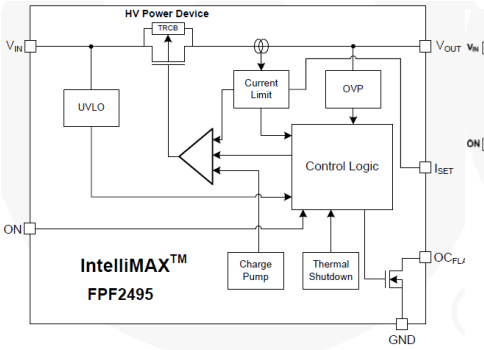


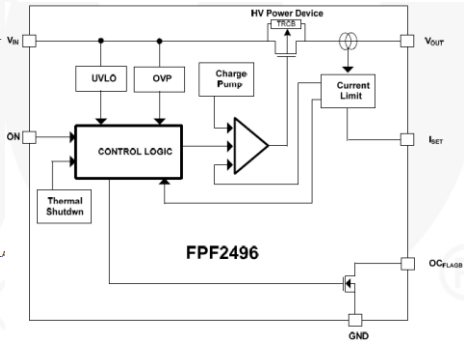
PN	Key Features	Successful Applications	Function
FPF2195	6V/1.5A 55mΩ ADJ ILIM w/ RCB in 1x1.5 WL-CSP	USB OTG / HDMI Finger print sensor module	Upstream protection
FPF2495	6V/2A 70mΩ ADJ ILIM w/ OVP, TRCB and 28Vabs at Vout in 1.21x1.21 WL-CSP	USB OTG / HDMI Host side VBUS with Type C Vconn with Type C	Upstream protection
FPF2496	6V/2.5A 70mΩ ADJ ILIM w/ OVP, TRCB and 28Vabs at Vin in 1.21x1.21 WL-CSP	Device side VBUS with Type C USB powered accessory	Upstream protection
FPF2165R	6V/1.5A 120mΩ ADJ ILIM w/ RCB in 2x2 MLP 6L	USB OTG /HDMI in consumer Input power path in USB dongle	Upstream protection

FPF2495/6UCX

Adjustable ILIM Switch with OVP



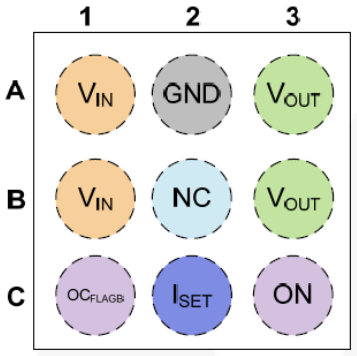




FEATURES

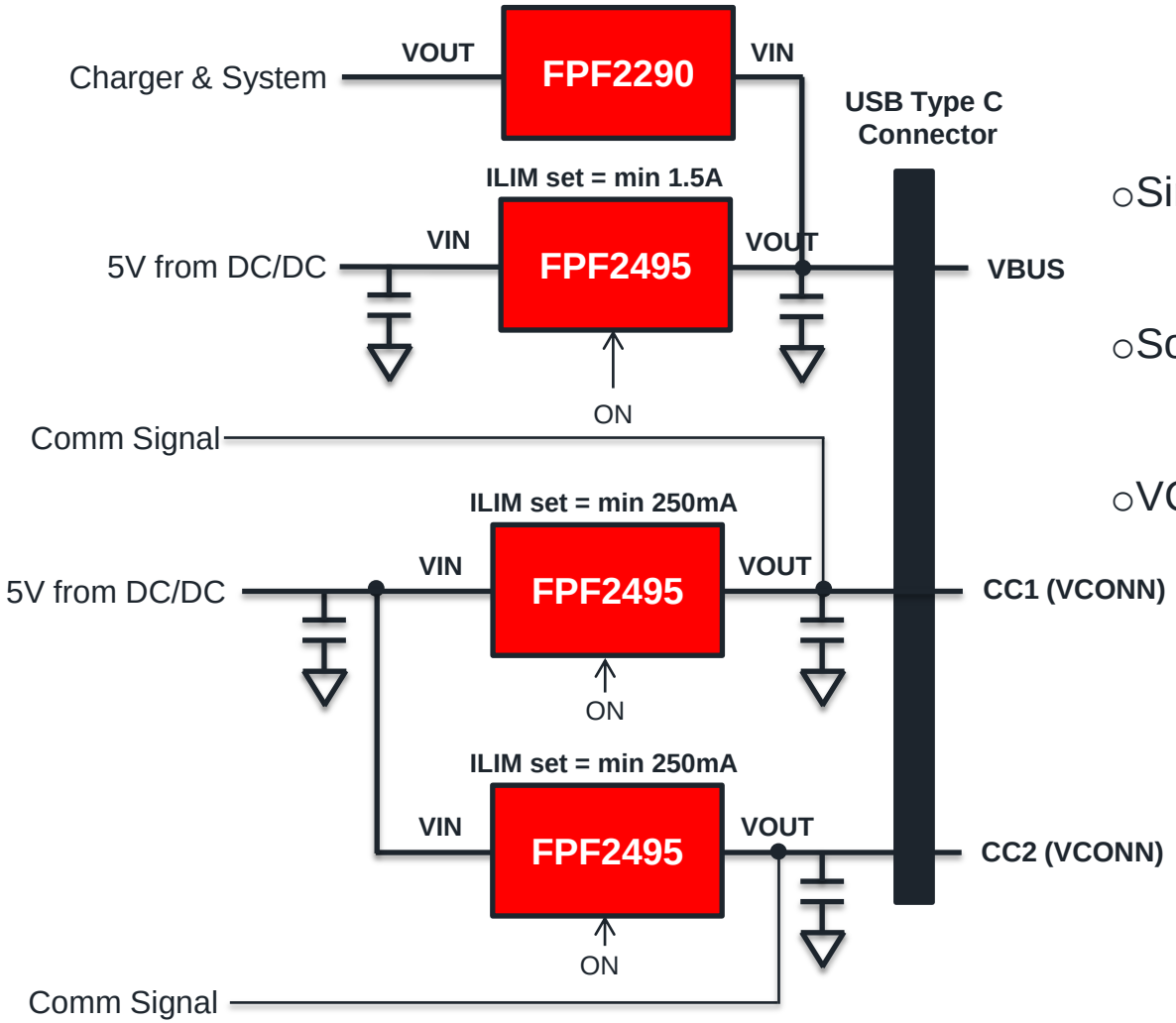
- 28V ratings at Vout for FPF2495
- 28V ratings at Vin for FPF2496
- 2.5V to 5.5V Operating Range for FPF2495
- 3.5V to 5.5V Operating Range for FPF2496
- Adjustable ILIM : 0.1~2A w/ +/10% for FPF2495
- Adjustable ILIM : 0.1~2.5A w/ +/10% for FPF2496
- Low R_{ON} = max 100mΩ @ 5Vin
- OVP for Vout with FPF2495 & Vin with FPF2496
  5.6Vmin/ 5.8Vtyp /6Vmax
- Output discharge for FPF2496
- UVLO & TRCB & Thermal Shutdown
- ESD Protected, 2kV HBM, 2.5kV CDM
- 1.25x1.25mm WLCSP

Part	Typ R_{ON} @ 5Vin	Typ ILIM	Typ OVP	ON Pin Activity	Output Discharge	Package
FPF2495	70mΩ, NMOS	0.1~2A	5.8Vout	Active HIGH	NA	1.25x1.25 WLCSP 9 bumps with 0.4mm pitch
FPF2496	70mΩ, NMOS	0.1~2.5A	5.8Vin	Active LOW	YES	



Pin Assignments (FPF2495)

Power Switch in USB Type C Application
OCP Switch for VBUS and VCONN



- Sink Path : VBUS to System
  - FPF2290 for charging path
- Source Path : 5V DC/DC to VBUS
  - FPF2495 : 5V/1.5A path
- VCONN Path : 5V DC/DC to VCONN
  - FPF2495 : 5V/250mA path

Interface & Protection Products

USB Switch

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- Type-C high speed switch: FUSB340
- Type-C re-driver: FUSB320
- Integration of type-C solution
- Integration of type-C / MUS

Applications:
- Mobile and beyond

2015 Focus:
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- Translator: FXMA2102
- Reset timer: FTL75939
- Other catalog signal switches

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- Execute other roadmap products

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- Over current protection (OCP): FPF2195 / 2495
- Over voltage protection (OVP): FPF2280 / 2290 / 2488
- Type-C for Vbus / PD / TA

Applications:
- Mobile and beyond

2015 Focus:
- Execute type-C definitions
- Execute other roadmap products

Summary

- Fairchild provides full Datasheets, Evaluations Board, Android drivers/software support for FUSB300/1/2 controllers as selling tools

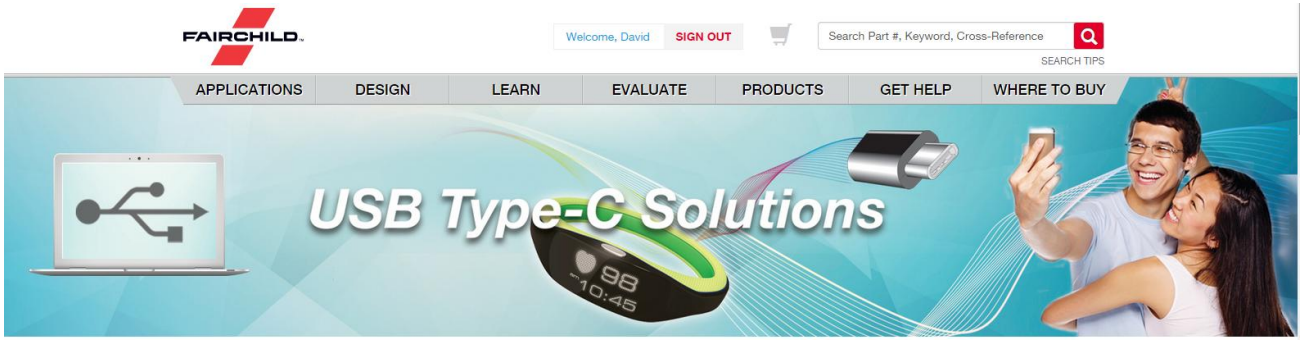
- Fairchild has a diverse portfolio that also serves additional parts of these type of systems, including:
  - Point of load, translators, TinyLogic® devices, passive switches, load switches, power adapters, FET's, …

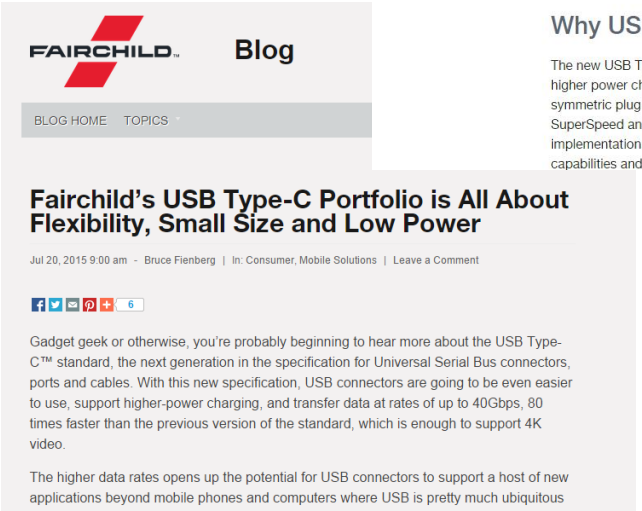
- Fairchild provides flexible Type-C solutions optimized for cost, board space, and power.
  - Controllers to detect attached/detach and configuration.
  - SuperSpeed Passive Switch

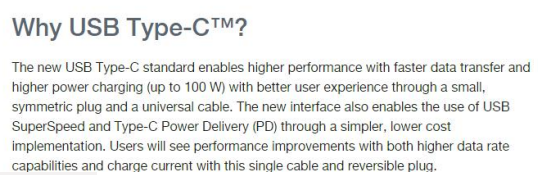
- Fairchild's Type-C solutions can be pitched to any product that has a USB port today.

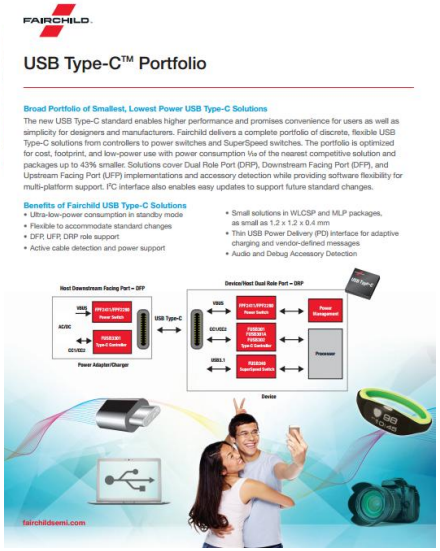
More Information is available on Fairchild's website

For more information, please visit fairchildsemi.com/usbtype-c









THANK YOU