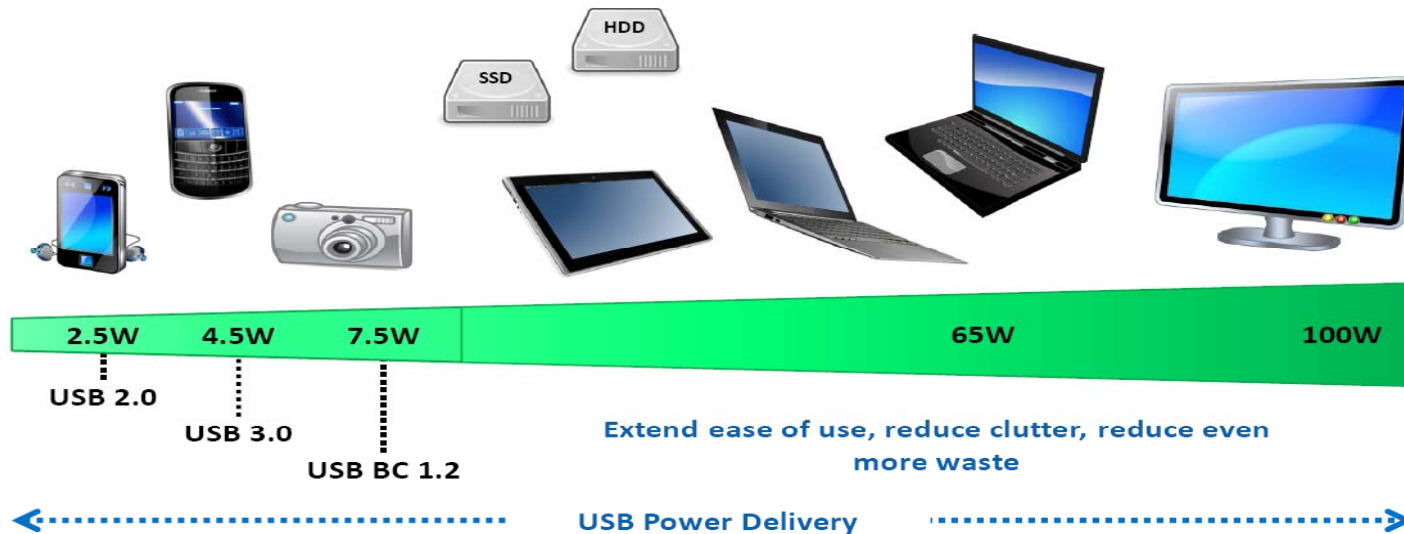




CYG Wayon Circuit protection Co., Ltd.

CYG WAYON Protection Solution for USB Application

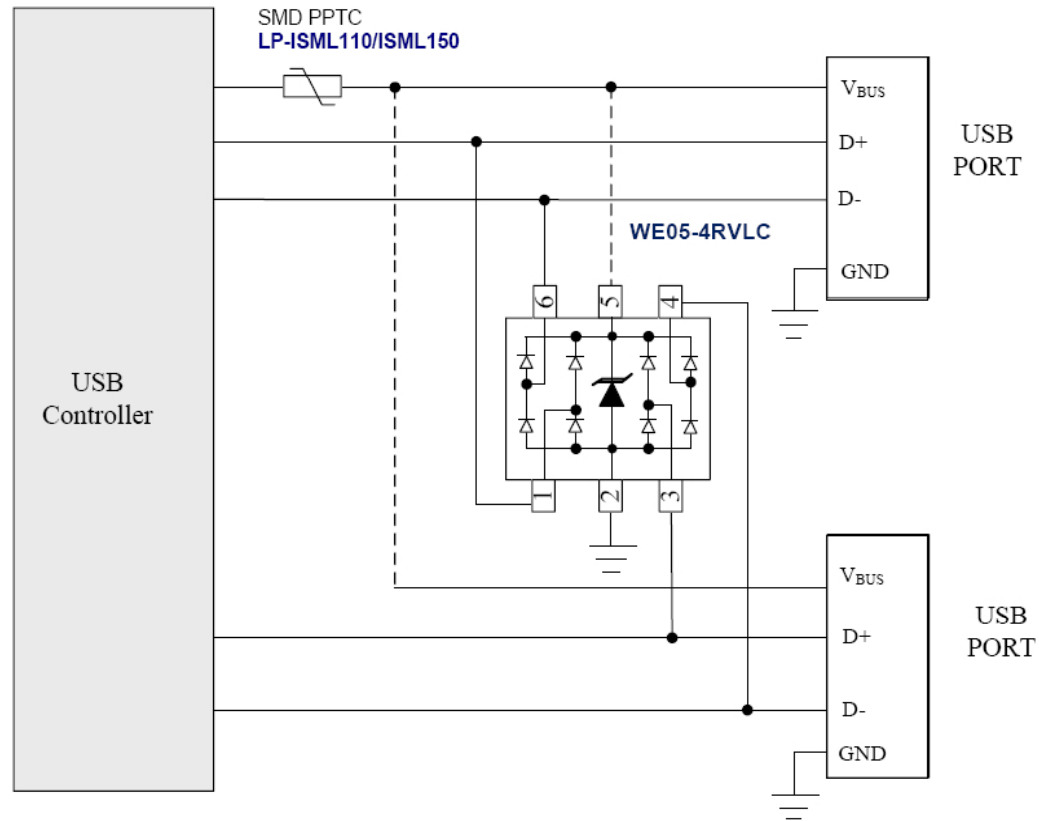
USB Development Tendency



- USB2.0→USB3.0 Standard: Output current from 0.5A increase to 0.9A
- USB BC Standard: Maximum Current: 1.5A
- USB PD Standard: Voltage from 5V increase to 20V, Current from 1.5A to 5A

Information is CYG Wayon Confidential & Proprietary. Do Not Reproduce or Distribute.

USB2.0 Solution



Application:

Data rate : 480Mbps

Signal lines : 2/Port

Power bus: 1/Port, 5V

Over voltage: ESD

Over current: Max 500mA /port

Solution:

TVS P/N: WE05-4RVLC

Peak Pulse Power : 120W @ 8/20 μ s

Max Line-Line cap.: 0.5 pF

Package: SOT23-6L (3.0x 3.0x1.2);

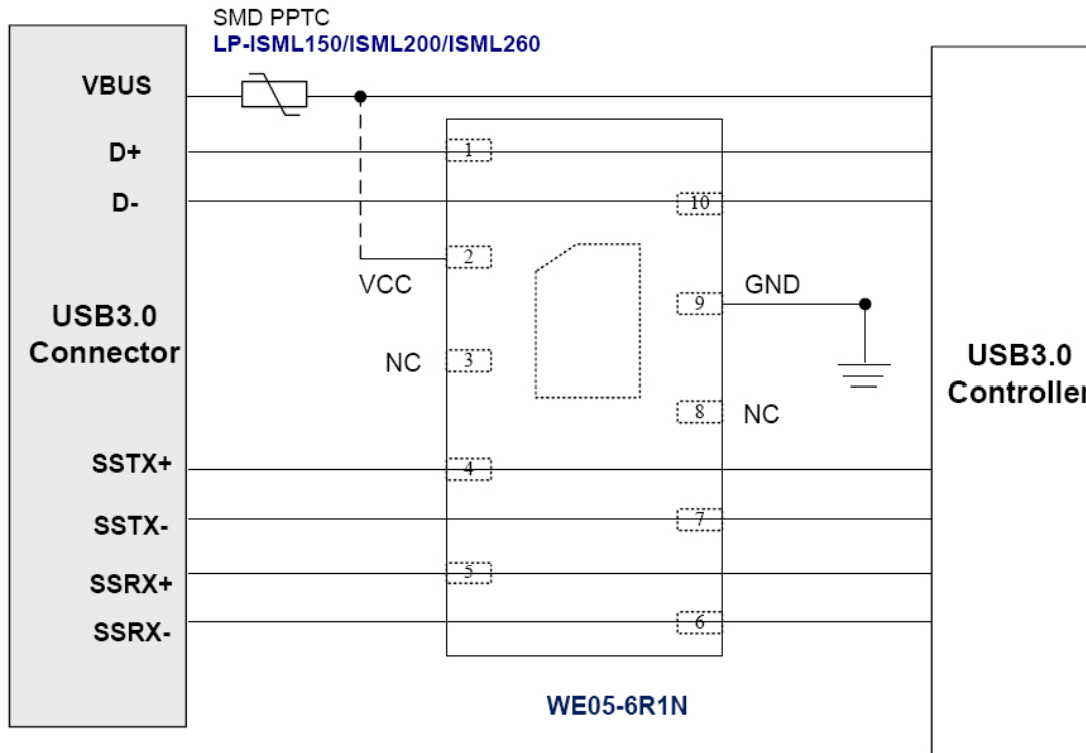
PPTC P/N:LP-ISML110/ISML150

Hold current: 1.1A/1.5A

V_{max}: 8V

Package: SMD 0805 Size

USB3.0 Solution



Application:

Data rate : 4800 Mbps
 Signal lines : 6/Port
 Power bus: 1/Port, 5V
 Over voltage: ESD
 Over Current: Max 900mA

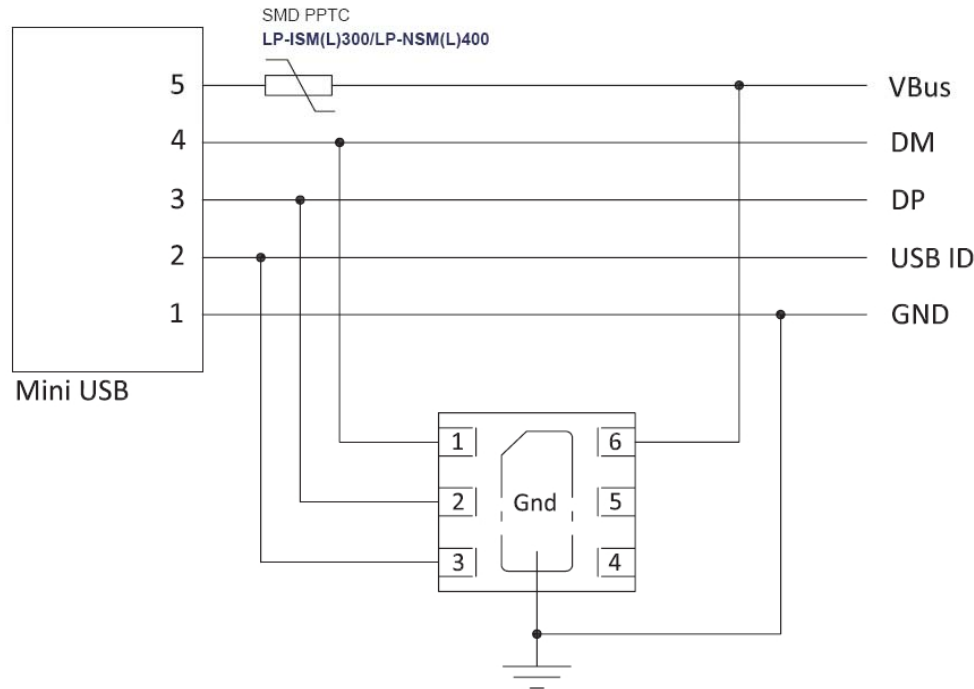
Solution:

TVS P/N: WE05-6R1N
 Peak Pulse Power : 100W @ 8/20 μ s
 Max Line-Line cap.: 0.3 pF
 Package: DFN4.1x2-10L(4.1x2.0x0.6);

PPTC P/N:LP-ISML150/ISML200
 /ISML260

Hold current: 1.5A/2.0A/2.6A
 Vmax: 8V
 Package: SMD 0805 Size

USB PD Solution 18W/36W



Application:

Data rate : 480 Mbps
Signal lines : 2 /Port
Power bus: 1 /Port, 12V
Over voltage: ESD
Over Current: Max 1.5A/3A

Solution:

TVS P/N: WS0512-4RP
Peak Pulse Power : 120W@ 8/20 μ s
Max Line-Line cap.: 0.5 pF
Package:DFN6L;

PPTC P/N:LP-ISML300/NSML400
Hold current: 3A/4A (@60degrc)
Vmax: 12V
Package: SMD 0805 Size (For 18W)
SMD1206 Size (For 36W)

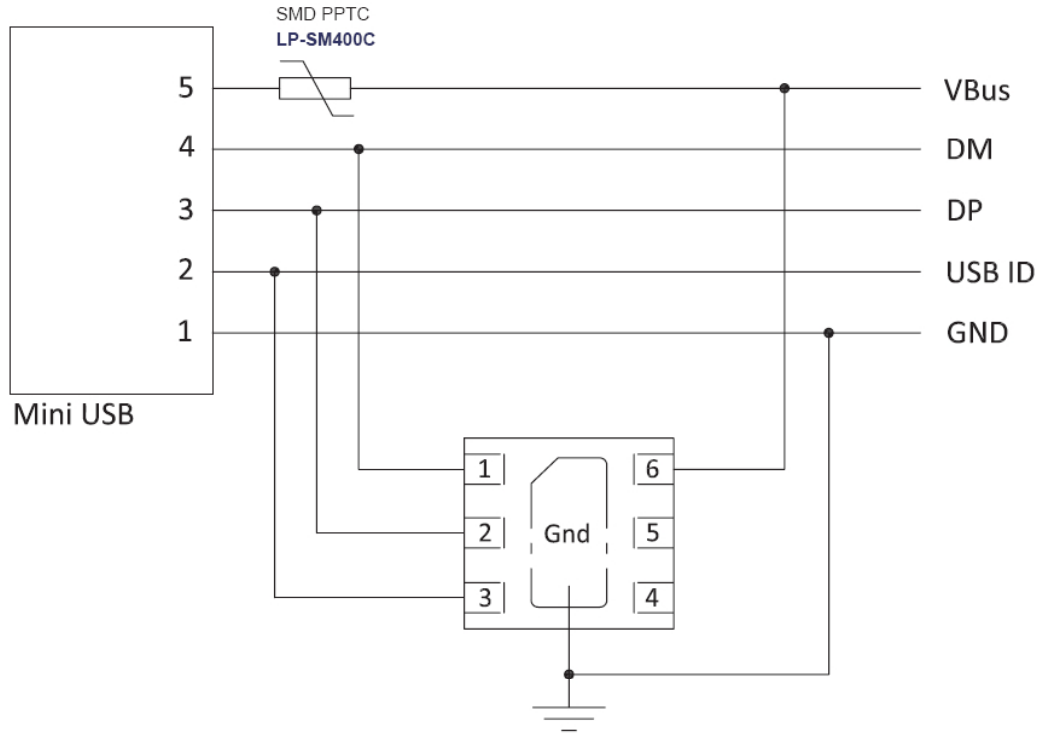
Development Objective!

**For 36W USB PD:
LP-ISML400!
(SMB 0805 Size, 12V)**



Information is CYG Wayon Confidential & Proprietary. Do Not Reproduce or Distribute.

USB PD Solution 60W/100W



Application:

Data rate : 480 Mbps
 Signal lines : 2/Port
 Power bus: 1 /Port, 20V
 Over voltage: ESD
 Over Current: Max 3A/5A

Solution:

TVS P/N: WS0520-4RP
 Peak Pulse Power : 120W @ 8/20 μ s
 Max Line-Line cap.: 0.5 pF
 Package:DFN6L;

PPTC P/N:LP-SM400C
 Hold current: 4A (@60degrc)
 Vmax: 20V
 Package: SMD 2920 Size (For 60W)

Development Objective!

**For 60W/100W USB PD:
 LP-NSM400/LP-NSM500!
 (SMB 1206 Size, 20V)**



Information is CYG Wayon Confidential & Proprietary. Do Not Reproduce or Distribute.



Information is CYG Wayon Confidential & Proprietary. Do Not Reproduce or Distribute.