ASM1042A

General Description

The ASM1042A is ASMedia's new generation of Universal Serial Bus 3.0 extended host controller, bridging PCI Express to two ports of USB3.0, ASM1042A is designed for high speed, low power data transmit, backward compatible with current USB2.0 standard and complies with Intel's eXtensible Host Controller Interface (xHCI) Revision1.0.

The ASM1042A supports UASP (USB Attach SCSI Protocol) and Debugport function. It is certified for Win8 WHCK and is supported by Linux and MAC OS platforms. ASM1042A is highly integrated with ASMedia PCI Express, SuperSpeed USB and USB2.0 self-design PHYs. The application of ASM1042A includes PC, mobile, consumer electronic device and communication application.

Features

1. General Feature

   *Bridge one lane PCI Express Gen II to two ports of USB3.0

   *Upload the firmware through BIOS support or external SPI ROM

   *Flexible clock design via external 20MHz differential crystal or 48MHz single-end clock input

   *Overclock capability on PCI Express bus under asynchronous mode

   *Integrated Spread Spectrum Controller for PCI Express and USB3.0 interface

   *Support Windows, Linux and MAC OS Platform

   *3.3V IO power supply and 1.05V core power supply

2. PCI Express Feature

   *Support one lane PCI Express

   *UP to 5Gbps bandwidth performance with low latency

   *Compliant with PCI Express Base 2.0 Specification

   *Support PCI Express Card Electromechanical 2.0 Specification

   *Support PCI Bus Power Management Interface Specification Revision1.2

   *Support Express Card Standard Revision 2.0

   *Support overclocking capability on PCI Express Interface

3. USB Feature

*Compliant with USB 3.0 Specification Revision 1.0

*Compliant with USB Specification Revision 2.0

*Compliant with xHCI specification Revision 1.0

*Compliant USB Attached SCSI Protocol Revision1.0

*Support USB Super-Speed, High-Speed, Full-Speed and Low Speed Operation

*Support Control, Bulk, Stream, Interrupt, Isochronous transfer type

*Support independent port power control and over current detection

*Support Legacy device and Wakeup event

*Support the function of Debugport

Package type

*Green package 8X8 QFN64 and 6X6 QFN48 (Pb-free)-RoHs Compliance

产品描述（功能)	Universal Serial Bus 3.0 extended host controller / QFN64 Package

<table>
<tr><td colspan="2" align="center">ASM1042 PDF 資料表：</td></tr>
<tr><td>Image Info :
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PCI Express to USB3.0

Top pins:
48 VDD12U
47 U3RXN_A
46 U3RXP_A
45 GNDA
44 U3TXN_A
43 U3TXP_A
42 UREXT
41 VCC12U
40 U3TXN_B
39 U3TXP_B
38 GNDA
37 U3RXN_B
36 U3RXP_B
35 VDD12U
34 VSUS12
33 GND

Left pins:
49 VCC12
50 PE_CLKP
51 PE_CLKN
52 XO
53 XI
54 VDD12P
55 PE_RXP
56 PE_RXN
57 GNDA
58 PE_TXP
59 PE_TXN
60 VCC33P
61 PE_REXT
62 VCC12
63 GND
64 GPIO0

Right pins:
32 VCC12
31 VCC33
30 TEST_EN
29 PE_RST#
28 OCI_B#
27 OCI_A#
26 PPON_B
25 PPON_A
24 PE_WAKE#
23 VSUS33
22 U2DP_A
21 U2DM_A
20 VSUS12
19 VSUS33
18 U2DP_B
17 U2DM_B

Bottom pins:
1 GPIO1
2 SMI#
3 GPIO2
4 PE_SEL
5 PE_PWRDET
6 PE_CLKREQ#
7 VCC3
8 SPI_CLK
9 SPI_DO
10 SPI_CS#
11 SPI_DI
12 GND
13 PORST#
14 UART_RX
15 UART_TX
16 VCC12