

JMB712

PCI Express to x1 Combo Memory Card Host Controller (SDXC UHS-1 compliant)

Overview

JMB38X is product family that is Memory Card Reader Host Controller. Except JMB712, they are all 1-lane PCI Express to 1-slot Combo Memory Card Reader (SD/MMC/MS/xD) Host Controller. JMB712 is 1 slot Combo Memory Card Reader (SD/MMC/MS). The table below shows the brief feature lists of JMB38X product family.

	JMB385		JMB387		JMB389			JMB712
Host IF	PCIe		PCIe		PCIe			PCIe
1394a IF	None		None		None			None
Card Reader	x1 Combo		x1 Combo		x1 Combo			x1 Combo
Package	LQFP48 /QFN48		LQFP48		LQFP48 /QFN48			QFN32
Version	B	C	A	B	A	B	C	C
On-board application	V	V	V	X	V	X	V	V
Add-on/Express Card application	X	X	X	V	X	V	X	X
SDXC UHS-1	x	x	x	x	v	v	v	V
D3E	v	v	v	v	v	x	v	V
EEPROM	x	x	x	v	x	v	x	X
Boot Function	x	x	v	v	v	x	x	X
CR1_CD2	x	v	v	x	v	x	v	X
Co-layout	Co-layout							

(**): "Combo Memory Card Reader Mechanism" supporting SD/MMC/MS/MS Duo/MS-HG (1/4/8-bit) & xD.

Feature

Compliance

- Compliant with PCI Express Base Spec. Revision 1.1
- Compliant with SD Spec. Part 1 Physical Layer Spec. Version 3.00
- Compliant with SD Spec. Part A2 SD Host Controller Standard Spec. Version 2.00
- Compliant with SD Spec. Part E1 SDIO Spec. Version 2.00
- Compliant with SD Spec. Part 2 File System Spec. Version 2.00
- Compliant with MultiMediaCard System Spec. Version 4.2
- Compliant with Memory Stick Standard Format Spec. Version 1.43-00
- Compliant with Memory Stick Standard Memory Stick PRO Format Spec. – without security spec. – Version 1.02-00
- Compliant with Memory Stick Pro-HG Duo Spec. Version 1.00

Overall

- Integrated 1-Lane PCI Express PHY (2.5Gbps)
- Integrated PLL for PCI Express bus
- Output swing control and Automatic impedance calibration for PCI Express PHY
- Fabricated 0.18um/3.3V CMOS Standard Logic Process with single 3.3V power source

PCI Express

- Supports 1-Lane 2.5Gbps PCI Express bus
- Internal native interface multiplexed to Memory Card (SD/MMC/MS)
- All registers of Memory Card accessible in unified memory space

Memory Card

- Support Extended Capacity SD Memory Card (SDXC): more than 32GB and up to and including 2TB
 - Default speed mode: 3.3v signaling, Frequency up to 25MHz
 - High speed mode: 3.3v signaling, Frequency up to 50MHz
 - SDR12/25/50/104, DDR50: 1.8v signaling, Frequency from 25MHz to 208MHz
- Support MSXC memory card: more than 32GB and up to and including 2TB
- Supports 1 set of “3-in-1 Combo Card Reader”
- Programmable IO driving to adjust signal trace length
- Programmable pull high/low control for different memory card bus topology
- Support MSPRO-HG Duo 4-bit mode

Peripherals Components

- Integrate 3.3v-to-1.8v regulator for code power
- Integrate 3.3v-to-3.3/1.8v power switch for SDA3.0 IO power
- Integrate Power Switch for power control of memory card

Related Product Information

Name	Description	Controller
JMB385	PCI Express to x1 Combo Memory Card	Host Controller
JMB387	PCI Express to x1 Combo Memory Card (with SD Boot function)	Host Controller
JMB389	PCI Express to x1 Combo Memory Card (SDXC UHS-1 compliant, 4-in1 combo card reader)	Host Controller
JMB712	PCI Express to x1 Combo Memory Card (SDXC UHS-1 compliant, 3-in-1 combo card reader)	Host Controller

Supporting Document

1	Product Brief
2	Data Sheet
3	Hardware Design Guide
4	Application Schematic

Contact Information

Department	Email
Sales	sales@jmicron.com
Tech. Support	fae@jmicron.com

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