

Card Drive U510 Soccer
Card Drive U510 Pro
Card Drive U510
BB58 Series

Table of Contents

1. Introduction to Card Drive	1
2. Main Features Overview	1
3. Hardware Specification	1
3.1 USB Interface	1
3.2 NAND Flash Interface	1
3.3 OS Support	1
3.4 Product Capacity	1
4. Block Diagram	2
5. Absolute Maximum Ratings	2
6. DC Characteristics	3
7. Recommended Operating Conditions	4
8. Pin Assignments	4
9. Physical Specifications	5

Revision History

Revision	Date	History	Remark
A.0	05/03 '06	New Creation	
A.1	09/04 '06	Hardware Specification Modify	
A.2	09/28 '06	Main Features Overview Modify	

Important!! Please make sure the driver matches the part number on your pen drive before you download.
Software AP System Requirements. One of following operation systems: Windows 98/98SE/Windows ME/Windows 2000/Windows XP
The advertised memory capacity of this device represents unformatted capacity. Please note that once formatted and due to variations in flash module block limitations, the functional storage space will be lower than the advertised capacity.
“PQI reserves the right to make changes without notification when fit, form, function, quality and reliability are not affected. The data sheets do not constitute contract documents and should not be considered part of the specification for purposes of any warranty.”

1. Introduction to Card Drive

The latest PQI portable storage device is available with a whopping 16GB capacity and measures only 3mm thin. Image a credit card size device that requires no external power to function and stores any type of data you put to it. Sporting all the functions of a USB (2.0/1.1) compatible device, functional on Windows or Mac OS, it definitely packs more value into your wallet.

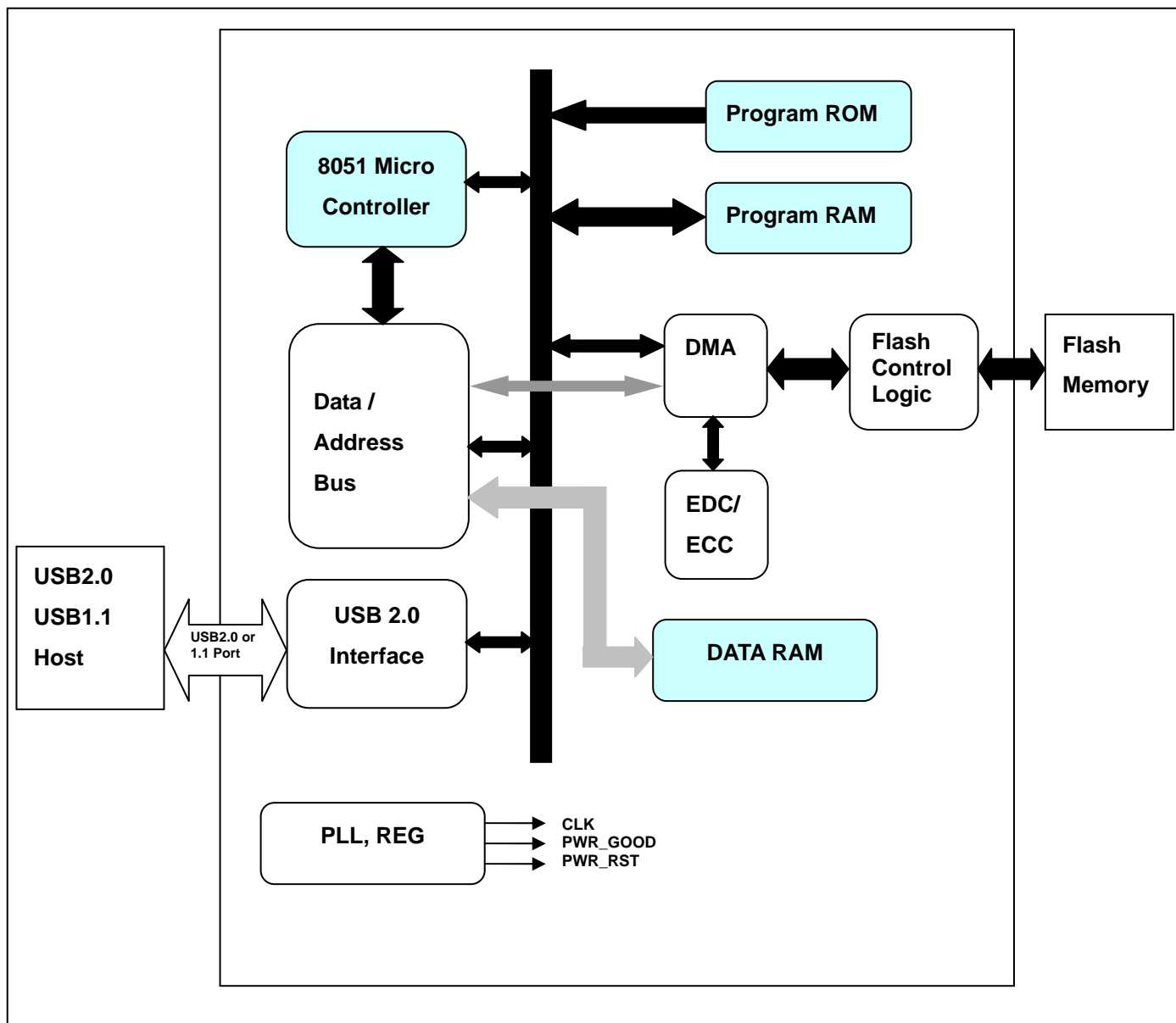
2. Main Features Overview

- ◆ Ultra transfer rate: Read up to 25MB/sec (U510 PRO only)
- ◆ 3mm Thin
- ◆ Retraction Connector
- ◆ Aluminum Alloy Casing
- ◆ PQI's patented **Intelligent Stick™** interface
- ◆ Multimedia or Data Storage
- ◆ Mobile USB flash drive, USB 2.0 compatible
- ◆ Hot swappable, USB Plug & Play compatible
- ◆ LED indicator with two model: Busy, waiting
- ◆ Low power consumption
- ◆ Its small size marking it easy to carry and store
- ◆ Built-in personal customizable software (USB Notebook Professional)

3. Hardware Specification

USB Interface	High-speed USB 2.0 interface; backward compatible with USB 1.1	
NAND Flash Interface	Integrated ECC circuits for 4-bit error correction	
OS Support	No drive is required for Windows ME, 2000,XP or Mac OS 9.x	
Environment		
Temperature	Operating	0°C to 65°C
	Non-Operating	-20°C to 75°C
Vibration	Operating	0.2G
	Non-Operating	15G
Shock resistant	Operating	150G
	Non-Operating	1000G
Configuration		
Capacity		1GBytes ~ 4GBytes (U510 Soccer only) 4GBytes ~ 16GBytes (U510 Pro) 1GBytes ~ 16GBytes (U510)
Reliability		
MTBF(@25°C)		1,000,000 hours
Power Requirement		
Voltage		DC 3.3/5V ± 10%
Power Consumption		
Read		<100mA
Write		<100mA
Standby		<100mA
Un-configuration		<100mA
Suspend		<1.0.mA

4. Block Diagram



5. Absolute Maximum Ratings

Symbol	Parameter	Min	Max	Unit
Tstorage	Storage Temperature	-20	75	°C
Ta	Ambient Operating Temperature	0	65	°C
Vcc3	3.3V Supply Voltage	-0.3	3.6	V
Vcc18	1.8V Supply Voltage	-0.3	2	V
Vin3.3	3.3V Buffer Input Voltage	-0.3	3.6	V
Vin3/5	3.3V/5V Buffer Input Voltage	-0.3	5	V
Vin1.8	1.8V Buffer Input Voltage	-0.3	2	V

6. DC Characteristics

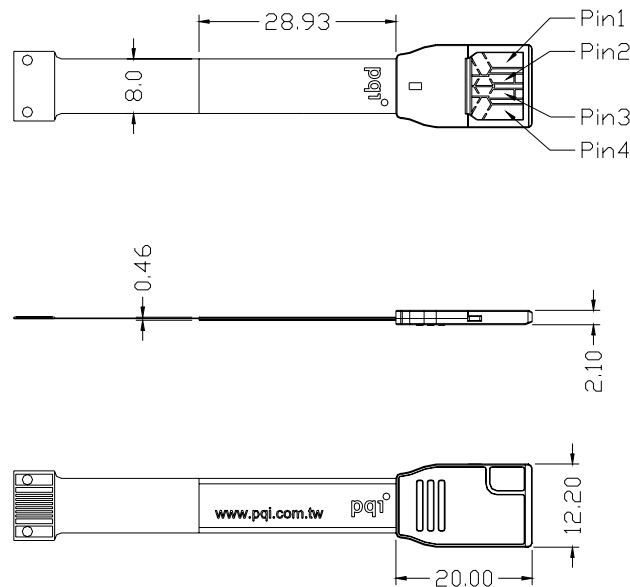
Symbol	Parameter	Min.	Max.	Unit	Notes
V _{IH_TTL}	TTL Input High Voltage	2	V _{CC3} +0.3	V	
V _{IL_TTL}	TTL Input Low Voltage	-0.3	0.8	V	
V _{OH_TTL}	TTL Output High Voltage	0.9 X V _{CC3}		V	
V _{OL_TTL}	TTL Output Low Voltage		0.45	V	
I _{OH_TTL}	TTL Output High Current	-4		mA	
I _{OL_TTL}	TTL Output Low Current		4	mA	
V _{IH_USB}	USB Input High Voltage for Low-/full-speed	2.0		V	
V _{IL_USB}	USB Input Low Voltage for Low-/full-speed		0.8	V	
V _{I_USB_DIFF}	Differential Input Sensitivity for Low-/full-speed	TBD		V	
V _{I_USB_CM}	Differential Common Mode Input Range for Low-/full-speed	0.8	2.5	V	
V _{I_USB_HSSQ}	USB High-speed squelch Input detection threshold	0.10	0.15	V	
V _{I_USB_HSDSC}	USB High-speed disconnect Input detection threshold	0.525	0.625	V	
V _{I_USB_HSCM}	USB High-speed Signaling Common Mode Range	-0.05	0.5	V	
V _{OH_USB}	USB Output High Voltage for Low-/full-speed	2.8	3.6	V	
V _{OL_USB}	USB Output Low Voltage for Low-/full-speed	0	0.3	V	
V _{OH_USB_HS}	USB Output High Voltage for High-speed	0.36	0.44	V	
V _{OL_USB_HS}	USB Output Low Voltage for High-speed	-0.01	0.01	V	
I _{OH_USB}	USB Output High Current for Low-/full-speed	-10		mA	
I _{OL_USB}	USB Output Low Current for Low-/full-speed		10	mA	
I _{OH_USB_HS}	USB Output High Current for High-speed	-40		mA	
I _{OL_USB_HS}	USB Output Low Current for High-speed		40	mA	

7. Recommended Operating Conditions

Symbol	Parameter	Min.	Typical	Max.	Units
Vcc33	Power Supply Voltage	3.0	3.3	3.3	V
Vin	Input Voltage	0	Vcc	Vcc+0.3	V
Vcc25	Internal Power Support	2.25	2.5	2.75	V

8. Pin Assignments

Pin No.	Pin Name	Function
1	VCC	USB power input
2	USB D-	USB differential signal
3	USB D+	The pairs are used to transmit Data/Address/Command
4	VSS	Ground



9. Physical Specifications

9.1 Dimensions:

9.1.1 Height: 85.0mm

9.1.2 Width: 54.0mm

9.1.3 Depth: 3.0mm

9.1.4 Weight: 22.8g ± 2g

9.2 Outline of top view

