

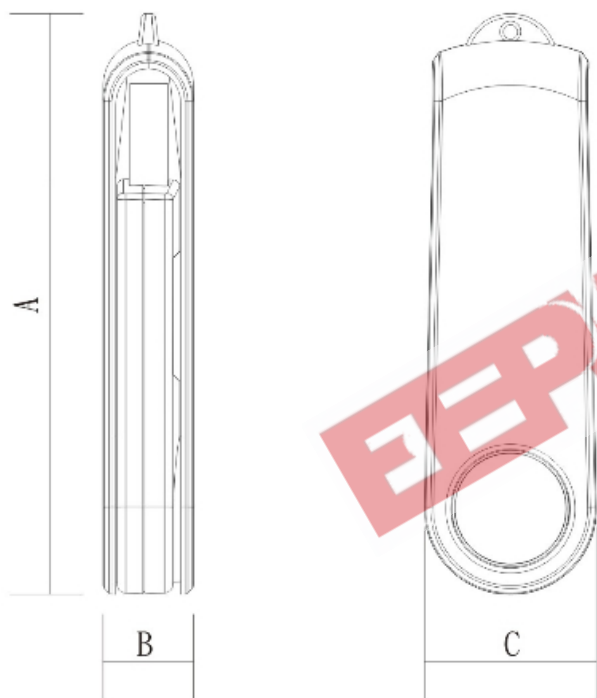
TS4GJF220

4GB USB2.0 JetFlash™ 220

Description

TS4GJF220 is a 4GB USB Flash Drive with Fingerprint Sensor and 1pcs of 4Gx8 or 2 pcs of 2Gx8 Flash Memory assembled on printed circuit board.

Outline



Features

- Fully compatible with Hi-Speed USB 2.0
- Advanced Fingerprint Recognition Technology
- Fingerprint protect by AES 256-bit encryption
- Easy Plug and Play installation
- Driverless with Windows 2000, XP and Vista OS
- USB powered. No external power or battery needed
- LED indicates the usage status.

Dimensions

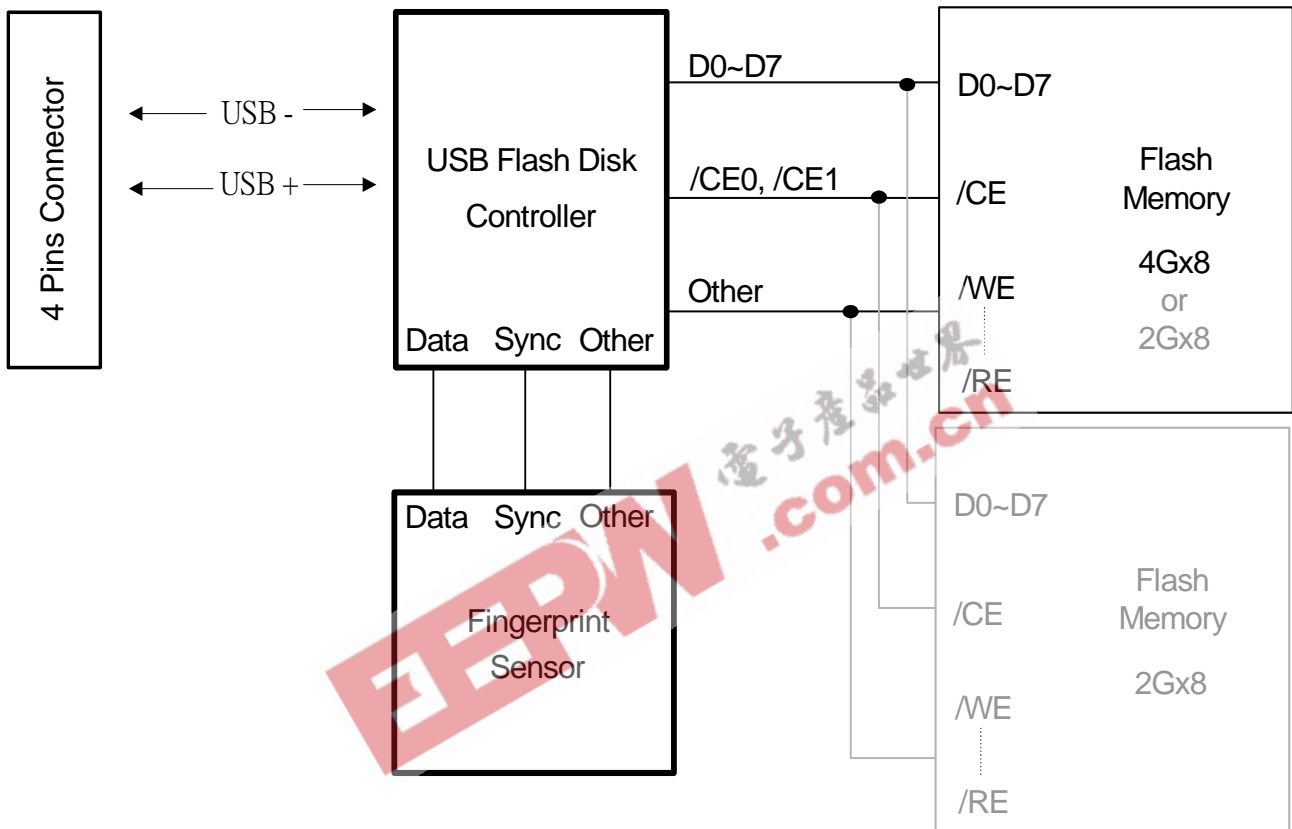
Side	Millimeters	Inches
A	70 ± 1.00	2.76 ± 0.04
B	11 ± 1.00	0.43 ± 0.04
C	20.5 ± 1.00	0.81 ± 0.04

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Block Diagram

- With Fingerprint Sensor and 1 pcs of 4Gx8 or 2 pcs of 2Gx8 Flash Memory



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Pinouts

Pin No.	Pin Name
01	VCC
02	USB-
03	USB+
04	VSS

Pin Identification

Symbol	Function
USB-	USB Differential Signal:
USB+	The pairs are used to transmit Data/Address/Command
VSS	Ground
VCC	USB Power Input

Specifications

Storage Capacity	4GB
Data Retention	10 years
Erase Cycles	>10,000 times
Connector Durability	10,000 times
System Performance	Read: 10 MB/sec (max.), Write: 3 MB/sec (max.)
Power Supply	DC 5V±10% via the USB port
Temperature Range	Operation: 0-70°C
Weight	13g
Certificates	CE, FCC, BSMI

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Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
V _{CC}	Power Supply	4.5 to 5.5	V
V _{IN}	Input Voltage	-0.3 to 3.6	V
V _{CC18}	Internal Power Supply	-0.3 to 2.0	V

DC Characteristics: T_{OPR}=0°C~70°C ; V_{IN}=3.3V ; V_{CC18}=1.8V

Symbol	Parameter	Min.	Max.	Units
V _{IH} TTL	TTL Input High Voltage	2	V _{IN} +0.3	V
V _{IL} TTL	TTL Input Low Voltage	-0.3	0.8	V
V _{OH} TTL	TTL Output High Voltage	0.9V _{IN}		V
V _{OL} TTL	TTL Output Low Voltage		0.45	V
I _{OH} TTL	TTL Output High Current	-4		V
I _{OL} TTL	TTL Output Low Current		4	V
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	0.1	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		V
I _{OL} USB	USB Output Low Current for Low-/full-speed		10	V
I _{OH} USB_HS	USB Output High Current for High-speed	40		V
I _{OL} USB_HS	USB Output Low Current for High-speed		40	V

AC Characteristics:

Symbol	Parameter	Min.	Typ.	Max.	Units
TP _{ILH}	Input Rising Delay	0.61 (0.8pF)	0.72 (2.4pF)	0.92 (4.8pF)	ns
TP _{IHL}	Input Falling Delay	0.88 (0.8pF)	1.03 (2.4pF)	1.24 (4.8pF)	ns
TP _{OLH}	Output Rising Delay	2.40 (10pF)	3.42 (30pF)	4.88 (60pF)	ns
TP _{OHL}	Output Falling Delay	2.61 (10pF)	3.62 (30pF)	5.03 (30pF)	ns
TR	Output Rising Time	2.26 (10pF)	4.45 (30pF)	7.89 (30pF)	ns
TF	Output Falling Time	1.90 (10pF)	3.63 (30pF)	6.23 (30pF)	ns

Recommended Operating Conditions

Symbol	Parameter	Min.	Typ.	Max.	Units
V _{CC}	Power Supply Voltage	4.5	5	5.5	V
V _{IN}	Input Voltage	3.0	3.3	3.6	V
V _{CC18}	Internal Power Supply	1.62	1.8	1.98	V

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