

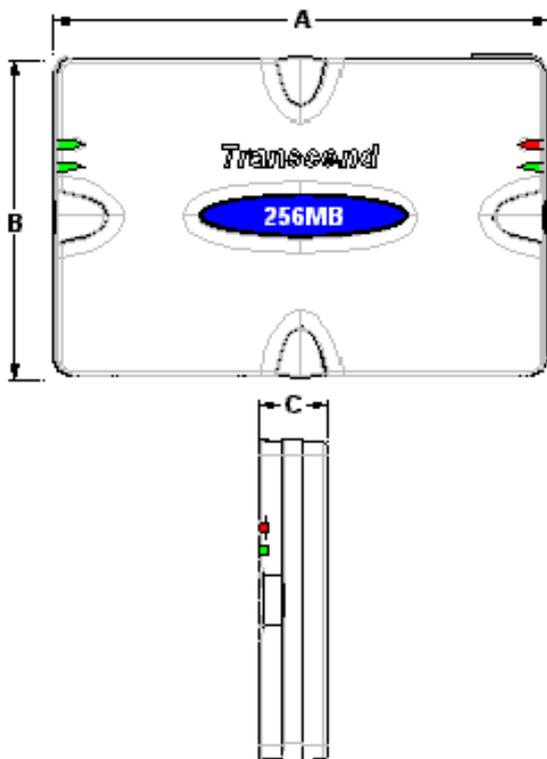
TS256MFLRD7

USB2.0 7-in-1 Card Reader

Description

TS256MFLRD7 is a 256MB USB2.0 7-in-1 Card Reader. With 3 slots, it is a small device designed for fast, easy data storage and exchange using 7 types of storage media: CompactFlash™, IBM Microdrive™, SmartMedia™, Secure Digital Card, MultiMediaCard™, Memory Stick® / Memory Stick PRO, and a built-in 256MB Flash Disk.

Placement



System Requirements

- Desktop or notebook computer with USB port
- One of following operating systems:
 - Win® 98SE, Win® Me, Win® 2000, Win® XP, Mac™ OS, and Linux.

Features

- 100% Compatible with USB Interface in Windows or Mac
- Single Power Supply: 3.3V / 5V ± 10%
- Durability of Connector: 10000 times
- Recommended Operating Temperature : 0 – 70 °C
- Compliant with USB specification version 2.0
- High-speed with transfer rate up to 480Mbit/sec
- Support CompactFlash™ Card, IBM Microdrive™, SmartMedia™ Card, MultiMediaCard™, Secure Digital Card, Memory Stick® / Memory Stick PRO, and Built-in Flash Disk
- No external power needed
- Supports Resume Suspend and Low Power modes
- LEDs indicate card insertion and data traffic

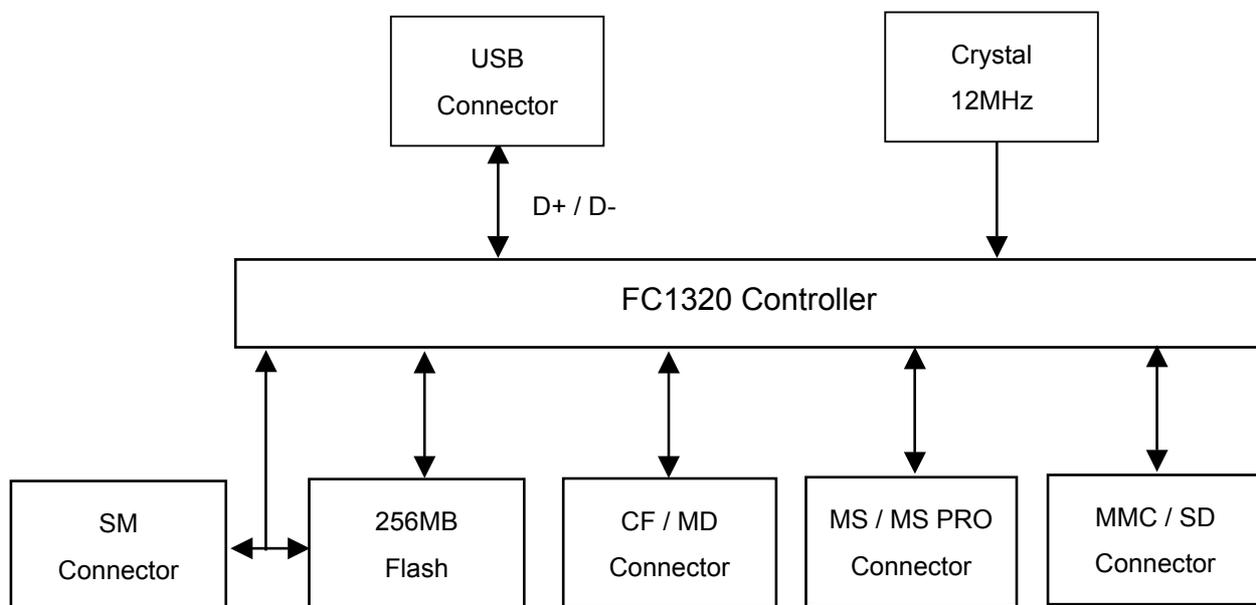
Dimensions

Side	Millimeters	Inches
A	97.00 ± 1.00	3.82± 0.04
B	64.00 ± 1.00	2.52 ± 0.04
C	14.00 ± 1.00	0.55 ± 0.04

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Block Diagram



Pinouts

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

Pin Identification

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

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{CC}	2.5V Power supply	-0.3 to 3.0	V
	3.3 Power supply	-0.3 to 3.9	V
V _{IN2}	Input voltage of 2.5V I/O	-0.3 to V _{CC2I} +0.3	V
	Input voltage of 2.5V I/O with 3.3V Tolerance	-0.3 to 3.9	V
V _{IN3}	Input voltage of 3.3V I/O	-0.3 to V _{CC3I} +0.3	V
	Input voltage of 3.3V I/O with 5V Tolerance	-0.3 to 5.5	V
T _{STG}	Storage temperature	-40 to 150	°C

Recommended Operating Conditions

Symbol	Parameter	Min.	TYP	Max.	Units
V _{CCk}	Core Power supply	2.25	2.5	2.75	V
V _{CC3I}	Power Supply of 3.3V I/O	3.0	3.3	3.6	V
V _{CC3O}	Power Supply of 3.3V I/O	3.0	3.3	3.6	V

DC Characteristics

Sym.	Parameter	Conditions	Min	Typ	Max	Units
I _{IL}	Input leakage current	no pull up/down	-10		10	μA
I _{OZ}	Tri-state leakage current		-10		10	μA
C _{IN}	Input capacitance			3.1		pF
C _{OUT}	Output capacitance			3.1		pF
C _{BID}	Bi-directional Buffer capacitance			3.1		pF

DC Electrical Characteristics

Sym.	Parameter	Min	Typ	Max	Units
V _{CCK}	Core Power Supply	2.25	2.5	2.75	V
V _{CC2I}	Power Supply	3.0	3.3	3.6	V
V _{CC2O}	Power Supply	3.0	3.3	3.6	V
V _{IL}	Input Low Voltage			0.8	V
V _{IH}	Input High Voltage	2.0			V
V _{t-}	Schmitt input low voltage	0.8	1.1		V
V _{t+}	Schmitt input high voltage		1.6	2.0	V
V _{OL}	Output low voltage			0.4	V
V _{OH}	Output high voltage	2.4			V
R _{pu} / R _{pd}	Input pull up/down resistance		75		kΩ

AC Characteristics

Sym.	Description	Min.	Typ.	Max.	Unit
T _c	Clock cycle time		83.3		ns
T _{lpd}	Clock low pulse duration	0.4T _c		0.6T _c	ns
T _{hpd}	Clock high pulse duration	0.4T _c		0.6T _c	ns

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