

# TS-RDP7K/W

## USB2.0 Portable Multi-Card Reader

### Description

TS-RDP7K/W is a USB2.0 Portable Multi-Card Reader. With 3 slots and USB hub function, it is a slim device specifically designed for fast, easy data transfer and exchange using multiple types of Memory Cards and USB Flash Drives.

### Features

- Color: Black / White
- Fully Compliant with the Hi-Speed USB 2.0 specification
- USB powered (no external power or battery needed)
- LED indicates card insertion and data traffic
- Support 3 USB ports.

Do not plug a heavy power consumption device(over 500mA) into the USB hub, such as external hard drives

- Built-in USB A-type cable.
- Supports many different types of Memory Cards

Insert directly:

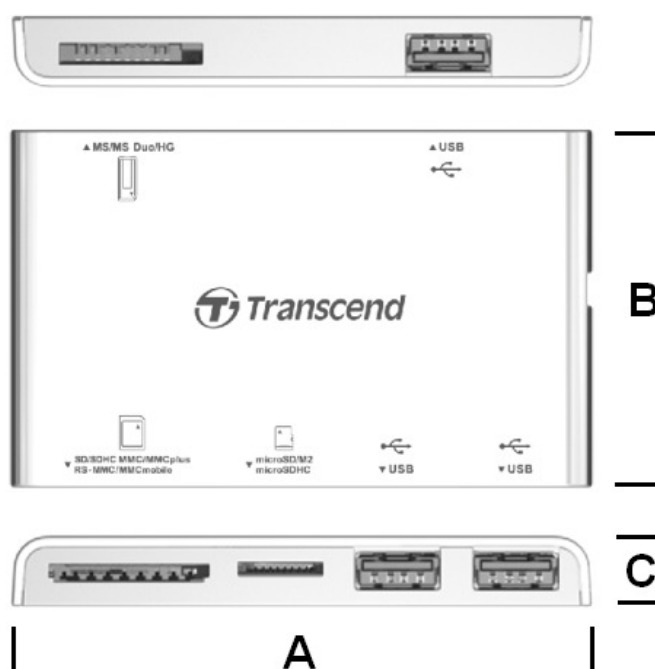
- **Secure Digital (SD™)**
- **SDHC (Secure Digital High Capacity)**
- **microSDHC**
- **microSD™ / TransFlash**
- **MultiMediaCard (MMC™)**
- **MMCplus™**
- **RS-MMC**
- **MMCmobile™**
- **Memory Stick™ (MS)**
- **Memory Stick PRO™**
- **Memory Stick Duo™**
- **Memory Stick PRO Duo™**
- **Memory Stick PRO-HG Duo™**
- **Memory Stick Micro™ (M2)**

Need an adapter of SD interface:

- **MMCmicro™**
- **miniSD™**
- **miniSDHC**

The reader does not support more than one memory card at a time.

### Placement



### Dimensions

| Side | Millimeters | Inches      |
|------|-------------|-------------|
| A    | 88.00 ± 1.0 | 3.47 ± 0.04 |
| B    | 54.00 ± 1.0 | 2.13 ± 0.04 |
| C    | 10.60 ± 1.0 | 0.42 ± 0.04 |

### System Requirements

- Desktop or notebook computer with a working USB port
- One of the following Operating Systems:
  - Windows<sup>®</sup> Me
  - Windows<sup>®</sup> 2000
  - Windows<sup>®</sup> XP
  - Windows Vista<sup>™</sup>
  - Windows 7<sup>™</sup>
  - Mac<sup>™</sup> OS 9.x, or later
  - Linux<sup>™</sup> Kernel 2.4.2, or later

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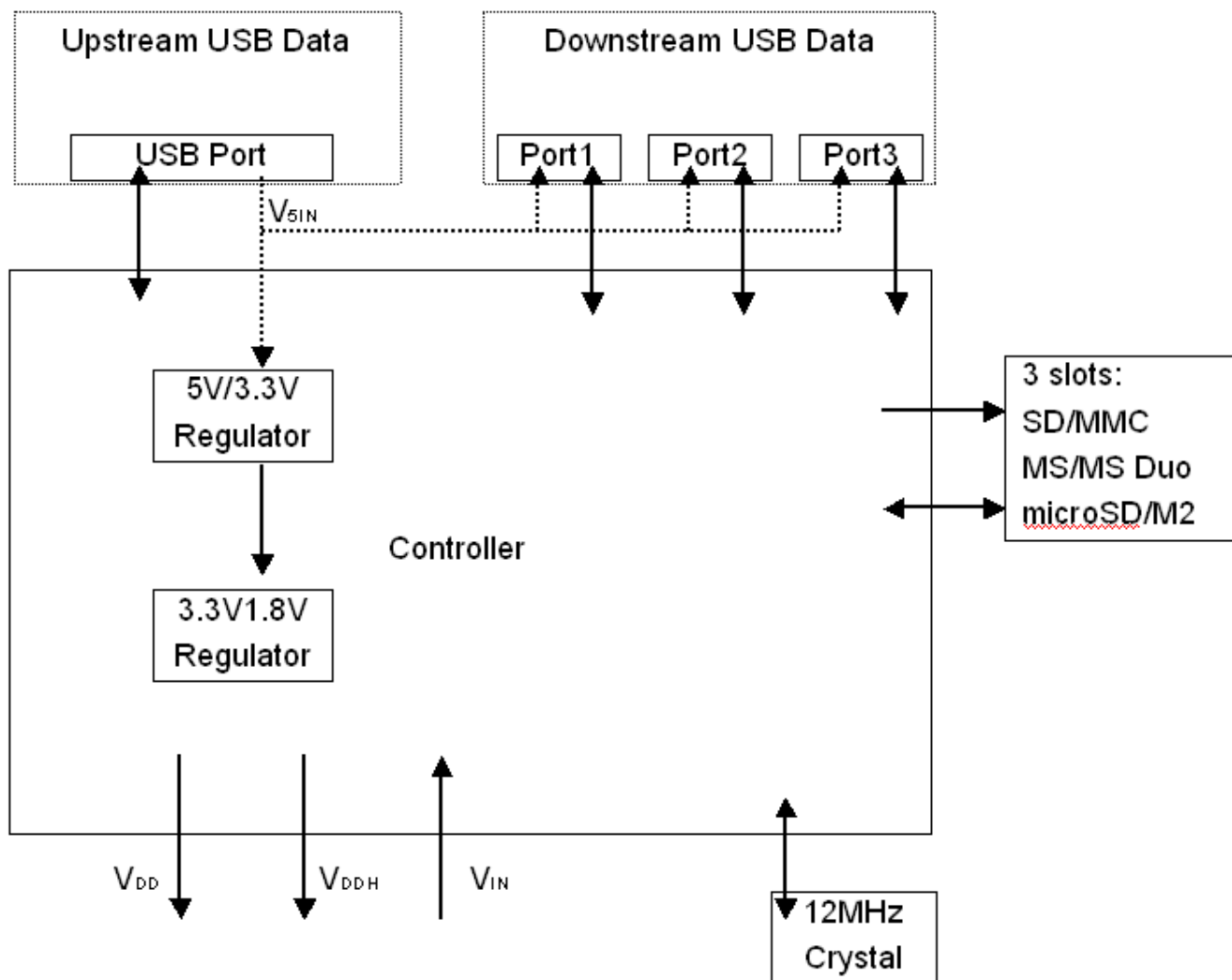
### USB Pinouts

| Pin No. | Pin Name         |
|---------|------------------|
| 01      | V <sub>5IN</sub> |
| 02      | USB-             |
| 03      | USB+             |
| 04      | VSS              |

### USB Pin Identification

| Symbol           | Function                                                                           |
|------------------|------------------------------------------------------------------------------------|
| USB-<br>USB+     | USB differential signal:<br>The pairs are used to transmit<br>Data/Address/Command |
| VSS              | Ground                                                                             |
| V <sub>5IN</sub> | USB Power Input                                                                    |

### Block Diagram



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### Recommended Operating Conditions:

| SYMBOL           | PARAMETER             | MIN  | TYP | MAX  | UNITS |
|------------------|-----------------------|------|-----|------|-------|
| V <sub>5IN</sub> | 5V Power Supply       | 4.0  | 5.0 | 5.5  | V     |
| V <sub>DDH</sub> | Power Supply          | 3.0  | 3.3 | 3.6  | V     |
| V <sub>DD</sub>  | Digital Supply        | 1.62 | 1.8 | 1.98 | V     |
| V <sub>IN</sub>  | Input Signal Voltage  | 0    | 3.3 | 3.6  | V     |
| T <sub>OPR</sub> | Operating Temperature | 0    |     | 85   | °C    |

### General DC Characteristics:

| SYMBOL           | PARAMETER                         | CONDITIONS              | MIN | TYP | MAX | UNITS |
|------------------|-----------------------------------|-------------------------|-----|-----|-----|-------|
| I <sub>IN</sub>  | Input current                     | No pull-up or pull-down | -10 | ±1  | 10  | μA    |
| I <sub>OZ</sub>  | Tri-state leakage current         |                         | -10 | ±1  | 10  | μA    |
| C <sub>IN</sub>  | Input capacitance                 | Pad Limit               |     | 2.8 |     | pF    |
| C <sub>OUT</sub> | Output capacitance                | Pad Limit               |     | 2.8 |     | pF    |
| C <sub>BID</sub> | Bi-directional buffer capacitance | Pad Limit               |     | 2.8 |     | pF    |

### DC Electrical Characteristics of 3.3V I/O Cells:

| SYMBOL     | PARAMETER                        | CONDITIONS                      | Limits |         |     | UNIT      |
|------------|----------------------------------|---------------------------------|--------|---------|-----|-----------|
|            |                                  |                                 | MIN    | TYP     | MAX |           |
| $V_{D33P}$ | Power supply                     | 3.3V I/O                        | 3.0    | 3.3     | 3.6 | V         |
| $V_{il}$   | Input low voltage                | LVTTL                           |        |         | 0.8 | V         |
| $V_{ih}$   | Input high voltage               |                                 | 2.0    |         |     | V         |
| $V_{ol}$   | Output low voltage               | $ I_{ol}  = 2 \sim 16\text{mA}$ |        |         | 0.4 | V         |
| $V_{oh}$   | Output high voltage              | $ I_{oh}  = 2 \sim 16\text{mA}$ | 2.4    |         |     | V         |
| $R_{pu}$   | Input pull-up resistance         | PU=high, PD=low                 | 55     | 75      | 110 | $K\Omega$ |
| $R_{pd}$   | Input pull-down resistance       | PU=low, PD=high                 | 40     | 75      | 150 | $K\Omega$ |
| $I_{in}$   | Input leakage current            | $V_{in} = V_{D33P}$ or 0        | -10    | $\pm 1$ | 10  | $\mu A$   |
| $I_{oz}$   | Tri-state output leakage current |                                 | -10    | $\pm 1$ | 10  | $\mu A$   |

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