# ImageWriter

## *Winbond W25X Family Device Support Detail & Setup*

**ImageWriter Support Hierarchy**

**Manufacturer:** Winbond **Library:** SPI-Serial_Memory.cab

**Device:** W25X10, W25X20, W25X40, W25X80, W25X16, W25X32, W25X64

## Objects for W25X Family

| *Flow Object Name:* | *Program / Execute* | *Verify* | *Load* | *Object Size (Bytes)* | |
|---|---|---|---|---|---|
| FLASH | • | • | • | W25X10 | 0x20000 |
| | | | | W25X20 | 0x40000 |
| | | | | W25X40 | 0x80000 |
| | | | | W25X80 | 0x100000 |
| | | | | W25X16 | 0x200000 |
| | | | | W25X32 | 0x400000 |
| | | | | W25X64 | 0x800000 |
| Status Register | • | | • | 0x01 | |
| CHIP ERASE | • | | | 0x00 | |
| BLOCK ERASE | • | | | W25X10 | 0x20000 |
| | | | | W25X20 | 0x40000 |
| | | | | W25X40 | 0x80000 |
| | | | | W25X80 | 0x100000 |
| | | | | W25X16 | 0x200000 |
| | | | | W25X32 | 0x400000 |
| | | | | W25X64 | 0x800000 |
| ERASE ALL | • | | | | |
| SECTOR ERASE | • | | | W25X10 | 0x20000 |
| | | | | W25X20 | 0x40000 |
| | | | | W25X40 | 0x80000 |
| | | | | W25X80 | 0x100000 |
| | | | | W25X16 | 0x200000 |
| | | | | W25X32 | 0x400000 |
| | | | | W25X64 | 0x800000 |
| Read ID | | | • | 0x3 | |
| p_SPI[1] | • | | • | 0x8 | |

[1] Default SPI clock frequency = 8 MHz

## Physical Layer Connector Setup for W25X Family

| ImageWriter: | | Target: |
|---|---|---|
| ***Connector Pin #*** | ***Pin Name*** | ***Connections*** |
| 1 | GND | GND |
| 2 | GND | GND |
| 3 | TXD (MOSI/TDO) | D |
| 4 | RXD (MISO/TDI) | Q |
| 5 | RTS (TMS) | NOCONN |
| 6 | CTS | NOCONN |
| 7 | XCLK | C |
| 8 | RST | !S |
| 9 | SCL | NOCONN |
| 10 | SDA | NOCONN |
| 11 | GND | GND |
| 12 | GND | GND |
| 13 | VPP/EXT_IN | NOCONN |
| 14 | VPP/EXT_OUT | NOCONN |
| 15* | Target V+ | Supply 2.7 - 3.6V |
| 16* | Target V+ | Supply 2.7 - 3.6V |
| 17 | GND | GND |
| 18 | GND | GND |
| 19 | Pod Power | Supply 9-24 VDC |
| 20 | Pod Power | Supply 9-24 VDC |

## Support Notes:

1. A post-programming Flash Verify operation is highly recommended to ensure data integrity.
2. Erase & Program operations are dependent on Block Protect Bit settings in the Status Register. See manufacturer documentation for more details.
3. CHIP ERASE will bulk-erase entire device, **except** for the Status Register (See note 2.)
4. BLOCK ERASE will erase the addressed block. (See note 2.)
5. SECTOR ERASE will erase the addressed sector. (See note 2.)
6. ERASE ALL will bulk-erase entire device **including** the Status Register.
7. !W and !HOLD must be tied to VCC.

## Disclaimer

Typical implementation of **ImageWriter** includes but is not limited to external power provision to **ImageWriter**, device access restrictions on the target board, external hardware on the target board, or software changes created by the user affecting timing, device erasure, programming, or verification. Data I/O warranty coverage applies only when the product is used in conformance with technical specifications put forth by Data I/O and by the semiconductor device manufacturer.

In the interest of achieving the highest levels of safety and quality, Data I/O recommends that all programming processes be tested and documented in a prototype project prior to transition to volume manufacturing. For additional information see In-System Programming Design Guidelines (http://www.dataio.com/isp).

**ImageWriter** programs semiconductor devices through the use of circuits designed precisely to operate in accordance with specifications outlined by the device manufacturer. Provision and calibration of power supplies are critical for proper operation. **ImageWriter** has been fully tested by Data I/O Corporation for quality performance.