ImageWriter

Atmel ATMega649(V) Device Support Detail & Setup

ImageWriter Support Hierarchy

Manufacturer: Atmel

Device: ATMEGA649

Objects for ATMEGA649

Flow Object Name:	*Program / Execute*	*Verify*	*Load*	*Object Size (Bytes)*
FLASH	●	●	●	0x10000
EE	●	●	●	0x800
LOCKBITS	●	●	●	1
FUSE BYTES	●	●	●	3
SIG BYTES			●	3
ERASE	●			
CALIB BYTE			●	1
p_SPI[1]	●		●	0x8

[1] Default SPI clock frequency = 250KHz

Physical Layer Connector Setup for ATMEGA649

ImageWriter:		Target:
Connector Pin #	***Pin Name***	***Connections***
1	GND	GND
2	GND	GND
3	TXD (MOSI/TDO)	MOSI
4	RXD (MISO/TDI)	MISO
5	RTS (TMS)	NOCONN
6	CTS	NOCONN
7	XCLK	SCK
8	RST	RESET
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+ (7.0V max)	Supply 1.8-5.5 V
16*	Target V+ (7.0V max)	Supply 1.8-5.5 V
17	GND	GND
18	GND	GND
19	ImageWriter Power	Supply 9-24 VDC
20	ImageWriter Power	Supply 9-24 VDC

*Maximum Pin-Driver output voltage = 4.2V.
*ATMEGA649V is supported by same menu selection. VCC/TargetV+ range for ATMega649V is 1.8-5.5V, whereas ATMEGA649 is 2.7-5.5V. All other parameters are identical. See Manufactures device data-sheet for more information.

Support Notes:

1. Onboard programming is supported via SPI interface only.
2. A post-programming Flash Verify operation is highly recommended to ensure data integrity.
3. Erase always erases FLASH memory and LockBits. However, depending on fuse configuration EE may also be erased. Consult manufacturer data-sheet for more information on preserving EEPROM memory during erase.

4. Fuse bit mapping is per manufacturer data-sheet. All bits stored in ImageWriter memory must be properly set. Extended Fuse Byte is first address. Fuse High-byte is the second address, Fuse Low-byte is third address in memory.

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.