ImageWriter

Renesas R8/C Family Device Support Detail & Setup

ImageWriter Support Hierarchy

Manufacturer: Renesas

Devices:

R5F21102	R5F21172	R5F21237	R5F21284
R5F21103	R5F21173	R5F21238	R5F21292
R5F21104	R5F21174	R5F2123A	R5F21294
R5F21112	R5F21181	R5F2123C	R5F211A1
R5F21113	R5F21182	R5F21244	R5F211A2
R5F21114	R5F21183	R5F21246	R5F211A3
R5F21122	R5F21184	R5F21247	R5F211A4
R5F21123	R5F21191	R5F21248	R5F211B1
R5F21124	R5F21192	R5F21254	R5F211B2
R5F21132	R5F21193	R5F21256	R5F211B3
R5F21133	R5F21194	R5F21257	R5F211B4
R5F21134	R5F21206	R5F21258	R5F212A7
R5F21142	R5F21207	R5F21262	R5F212A8
R5F21143	R5F21216	R5F21264	R5F212B7
R5F21144	R5F21217	R5F21265	R5F212B8
R5F21152	R5F21226	R5F21266	R5F212C7
R5F21153	R5F21227	R5F21272	R5F212C8
R5F21154	R5F21228	R5F21274	R5F212D7
R5F21162	R5F2122A	R5F21275	R5F212D8
R5F21163	R5F2122C	R5F21276	
R5F21164	R5F21236	R5F21282	

Objects for R8/C Family

Flow Object Name:	***Program / Execute***	***Verify***	***Load***	***Object Size (Bytes)***
Chip Erase	●			
Unlock Device	●			0x1D
p_R5F[2]	●		●	0x1
p_RS232[1]	●		●	0x08

[1] Default RS232 Baud = 102.4KBaud

[2] Not supported in R8C/10 to R8C/1B groups, nor R8C/24, R8C/25

Flow Object Name:	Program / Execute	Verify	Load	Object Size (Bytes)	
Data Flash	●	●	●	R5F21122	0x1000
				R5F21123	0x1000
				R5F21124	0x1000
				R5F21132	0x1000
				R5F21133	0x1000
				R5F21134	0x1000
				R5F21152	0x800
				R5F21153	0x800
				R5F21154	0x800
				R5F21172	0x800
				R5F21173	0x800
				R5F21174	0x800
				R5F21191	0x800
				R5F21192	0x800
				R5F21193	0x800
				R5F21194	0x800
				R5F21216	0x800
				R5F21217	0x800
				R5F21236	0x800
				R5F21237	0x800
				R5F21238	0x800
				R5F2123A	0x800
				R5F2123C	0x800
				R5F21254	0x800
				R5F21256	0x800
				R5F21257	0x800
				R5F21258	0x800
				R5F21272	0x800
				R5F21274	0x800
				R5F21275	0x800
				R5F21276	0x800
				R5F21292	0x800
				R5F21294	0x800
				R5F211B1	0x800
				R5F211B2	0x800
				R5F211B3	0x800
				R5F211B4	0x800
				R5F212B7	0x800
				R5F212B8	0x800
				R5F212D7	0x800
				R5F212D8	0x800

Flow Object Name:	Program / Execute	Verify	Load	Object Size (Bytes)			
Program ROM	●	●	●	**R5F21102**	0x2000	**R5F21236**	0x8000
				R5F21103	0x3000	**R5F21237**	0xC000
				R5F21104	0x4000	**R5F21238**	0x10000
				R5F21112	0x2000	**R5F2123A**	0x18000
				R5F21113	0x3000	**R5F2123C**	0x20000
				R5F21114	0x4000	**R5F21244**	0x4000
				R5F21122	0x2000	**R5F21246**	0x8000
				R5F21123	0x3000	**R5F21247**	0xC000
				R5F21124	0x4000	**R5F21248**	0x10000
				R5F21132	0x2000	**R5F21254**	0x4000
				R5F21133	0x3000	**R5F21256**	0x8000
				R5F21134	0x4000	**R5F21257**	0xC000
				R5F21142	0x2000	**R5F21258**	0x10000
				R5F21143	0x3000	**R5F21262**	0x2000
				R5F21144	0x4000	**R5F21264**	0x4000
				R5F21152	0x2000	**R5F21265**	0x6000
				R5F21153	0x3000	**R5F21266**	0x8000
				R5F21154	0x4000	**R5F21272**	0x2000
				R5F21162	0x2000	**R5F21274**	0x4000
				R5F21163	0x3000	**R5F21275**	0x6000
				R5F21164	0x4000	**R5F21276**	0x8000
				R5F21172	0x2000	**R5F21282**	0x2000
				R5F21173	0x3000	**R5F21284**	0x4000
				R5F21174	0x4000	**R5F21292**	0x2000
				R5F21181	0x1000	**R5F21294**	0x4000
				R5F21182	0x2000	**R5F211A1**	0x1000
				R5F21183	0x3000	**R5F211A2**	0x2000
				R5F21184	0x4000	**R5F211A3**	0x3000
				R5F21191	0x1000	**R5F211A4**	0x4000
				R5F21192	0x2000	**R5F211B1**	0x1000
				R5F21193	0x3000	**R5F211B2**	0x2000
				R5F21194	0x4000	**R5F211B3**	0x3000
				R5F21206	0x8000	**R5F211B4**	0x4000
				R5F21207	0xC000	**R5F212A7**	0xC000
				R5F21216	0x8000	**R5F212A8**	0x10000
				R5F21217	0xC000	**R5F212B7**	0xC000
				R5F21226	0x8000	**R5F212B8**	0x10000
				R5F21227	0xC000	**R5F212C7**	0xC000
				R5F21228	0x10000	**R5F212C8**	0x10000
				R5F2122A	0x18000	**R5F212D7**	0xC000
				R5F2122C	0x20000	**R5F212D8**	0x10000

Physical Layer Connector Setup for R8/C Family

ImageWriter:		Target:
Connector Pin #	***Pin Name***	***Connections***
1	GND	GND
2	GND	GND
3	TXD (MOSI/TDO)	See note 1
4	RXD (MISO/TDI)	Mode
5	RTS (TMS)	NOCONN
6	CTS	NOCONN
7	XCLK	NOCONN
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 2.2-5.5 V
16*	Target V+ (7.0V max)	Supply 2.2-5.5 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.

Support Notes:

1. Pin 3 must be connected to Pin 4 with an external 1K Ohm series resistor.
2. After programming device location 0xFFDF-0xFFFB of the Program ROM and cycling the power the device will need to be unlocked. Locked devices are not able to be programmed/executed, verified, or loaded. To unlock a device Unlock Device object needs to be executed with the data that was programmed to the device starting at device address 0xFFDF.

3. The p_R5F object controls alternate device-specific functions as follows:

- p_R5F = 0, algorithm internal oscillator control functions normally. (Default)
- p_R5F is non-zero, algorithm internal oscillator is divide/5 to enable higher accuracy baud-rate match.

This object is initialized to 0 upon device-selection, and therefore must be pre-set in a flow prior to using the divide/5 setting.

4. Baud Rate may be changed via the p_RS232 Object. Not all baud rates may function with the device. Baud Rates internally supported by the algorithm are:
   -9600
   -19200
   -38400
   -57600
   -102400
   -115200
   -131600
   -230400
   -263300
   -460800

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.