Handbook for RX13T

The information/materials required at the time of product development summarized and listed for each development phase.

Please use it as a handbook when developing.

Table of contents:

Step1: MCU selection

	Item	Content	Link
1	Hardware information	Datasheet	Doc
2	Products & Solutions	Video	Web site
3		Blog	Web site
4		Reference designs (Winning combination)	Web site
5	Product longevity program (PLP)	Overview of product longevity program (PLP)	Web site
6		Product selection (product selector) Note: Refer to PLP column in the chart.	Web site
7	Replacement information	Differences of specification among RX products	Doc
8		[SH/H8/H8S/H8SX/M16C/V850] → RX microcontroller migration guide	Doc
9		Design guide for migration between RX family differences in package external form	Doc

Go to Top

Step2: Designing and evaluating

	Item		Content	Link
Common				
1	Hardware information		User's manual: Hardware	Doc
2			RX family hardware manual guidance (how to read user's manual: hardware)	Doc
3			Technical update (errata information) *Select “Technical Update” from the options to the left of the Documentation section.	Web site
4			Product change notice (PCN) *Select “Product change notice” from the options to the left of the Documentation section.	Web site
5			Part number guide for RX family product (the meaning of character in part number)	Doc
6			Semiconductor reliability handbook	Doc
7			RELIABILITY REPORT	Doc
8			RoHS Product Options → Part Number → Package information → RoHS Info	Web site
9	Software information		Instruction set for RXv1 core architecture (user’s manual)	Doc
10	Solution board	Communication board	MC-COM Renesas flexible motor control communication board	Web_site
11		Inverter board	Evaluation system for BLDC motor	Web_site
12		CPU card	CPU card for motor control	Web_site
13			User’s manual	Doc
14	Partner information		Partner products (system solutions provider)	Web site
15			Partner products (trusted technology partners that deliver commercial-grade building blocks)	Web site

Go to Top

Item			Content	Link
Hardware design				
1	Design information		Hardware design guide	Web site
2			Design guide for main clock circuit and Sub-Clock circuit	Doc
3			Notes regarding high-temperature operation	Doc
4	Board simulates		ECAD, board simulation model (IBIS) Note: ECAD can be found by clicking on the respective part number of the product options.	Web site
5	Other		Resonator and matching circuit information	Web site
6			Package information (package outline information, mount manual, etc.)	Web site
7	Development environment		Supplemental user's manual for E1/E20/E2 Lite/E2 emulator	Doc
Software design				
1	Software information		Getting started with the RX family development environment	Web site
2			Development tools for RX family	Web site
3			Software environment (OS, middleware, drivers)	Web site
4			RX smart configurator user's guide (tools for code generation)	Doc
5	Training information		Smart configurator tutorial - create a LED blinking program using RX family MCU	Web site
6			How to use tools and solutions (video clips)	Web site
7	System design		Examples of transitioning to low power consumption modes	Doc Sample
Solution				
1	Motor and inverter control	Portal page	Motor and inverter control solutions	Web site
2		Application notes	Vector control for permanent magnet synchronous motor with encoder (algorithm)	Doc
3			Sensorless vector control for permanent magnet synchronous motor (algorithm)	Doc
4			Vector control for permanent magnet synchronous motor with encoder for evaluation system for BLDC motor	Doc Sample

Go to Top

Item			Content	Link
Solution				
5	Motor and inverter control	Application notes	Sensorless vector control of a permanent magnet synchronous motor for the evaluation system for BLDC motor	Doc
				Sample
6			Vector control for permanent magnet synchronous motor with magnet sensor and inductive sensor for the evaluation system for BLDC motor	Doc
				Sample
7			120-degree conducting control of a permanent magnet synchronous motor for the evaluation system for BLDC motor	Doc
				Sample
8			PFC-Controlled and sensorless Vector-Controlled by ceiling FAN inverter board	Doc
				Sample
9			Vector control of Three-Phase induction motor used in driving a fan	Doc
				Sample
10			Vector control of Three-Phase induction motor used in driving a pump	Doc
				Sample
11		Tool	Renesas motor workbench	Web site
12	GUI	Portal page	Graphical user interface (GUI) solutions	Web site
13		Support information	RX family LCD-related FAQ list	Web site
14		Application notes	QE for display GUI display application development guide using serial connection LCD	Doc
15		Portal page	GUI sample program using serial LCD and emWin library	Doc
				Sample
16		Support information	Module for image rendering (emWin)	Doc
				Sample
17	Functional safety	Portal page	Functional safety solution for home appliances	Web site
18		Other information	Introduction to Renesas functional safety for home appliance (video)	Web site
Support				
1	Support information		FAQ (frequently asked inquiries)	Website
2			RX forum (community)	Website
3			Ask technical/sales support (support tickets)	Website

Go to Top

Step3: Mass production

Item			Content	Link
1	Writing a program	Programmer	PG-FP6	Web site
2		Writing tool	Renesas flash programmer (GUI tool for PC)	Web site
3	Firmware update	Application notes	Renesas MCU firmware update design policy	Doc
4			Firmware update module using firmware integration technology	Doc
				Sample
5			How to manage the access control for flash memory	Doc
6	Inspection	Design information	Boundary scan description language (BSDL) file	Not available

Go to Top