

RX23E-A, RX23E-B handbook for engineers

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.

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Step1: MCU selection

Item		Content	Link
1	Hardware information	Datasheet	23E-A: Doc 23E-B: Doc
2	Products & Solutions	Video	—
3		Blog	23E-A: Web site 23E-B: Web site
4		Reference designs (Winning combination)	23E-A: Web site 23E-B: Web site
5		Product longevity program (PLP)	Web site
6		Product selection (product selector) Note: Refer to PLP column in the chart.	23E-A: Web site 23E-B: Web site
7	Replacement information	Differences of specification among RX products	Doc
8		[SH/H8/H8S/H8SX/M16C/V850] → RX microcontroller migration guide	Web site
9		Design guide for migration between RX family differences in package external form	Doc

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Step2: Designing and evaluating

Item		Content	Link
Common			
1	Hardware information	User's manual: Hardware	23E-A: Doc 23E-B: Doc
2		RX family hardware manual guidance (how to read user's manual: hardware)	Doc
3		Technical update (errata information)	23E-A: Web site
4		Product change notice (PCN)	23E-A: Web site
5		Part number guide for RX family product (the meaning of character in part number)	23E-A: Doc 23E-B: Doc
6		Semiconductor reliability handbook	Doc
7		RELIABILITY REPORT	23E-A: Doc 23E-B: Doc
8		RoHS Product Options → Part Number → Package information → RoHS Info	23E-A: Web site 23E-B: Web site
9	Software information	Instruction set for RXv2 core architecture (user's manual)	Doc
10	Evaluation board (for general purpose)	Renesas solution starter kit for RX23E-A (all functions could be evaluated)	Web site
11		Renesas solution starter kit for RX23E-B (all functions could be evaluated)	Web site
12	Solution board	Industrial automation functional safety reference board	Web site
13	Partner information	Partner products (system solutions provider)	Web site
14		Partner products (trusted technology partners that deliver commercial-grade building blocks)	Web site
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	23E-A: Doc 23E-B: 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. 	23E-A: Web site 23E-B: Web site
5	Other	Resonator and matching circuit information	23E-A: Web site 23E-B: Web site
6		Package information (package outline information, mount manual, etc.)	Web site

Item		Content	Link	
Hardware design				
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	Sensor measurement	Solution introduction information	Doc	
2		Portal page	Tiny board for digital loadcell	23E-A: Web site 23E-B: Web site
3			Thermoelectric peltier controller	23E-A: Web site
4			Channel-to-Channel isolated analog measurement system	23E-A: Web site
5			IO-Link temperature sensor solution	23E-A: Web site
6			6-Axis force sensor small board	23E-B: Web site
7			Application notes	Force sensor measurement example
8		Temperature measurement example using a thermocouple		23E-A: Doc 23E-A: Sample
9		Temperature measurement examples using resistance temperature detectors		23E-A: Doc 23E-A: Sample
10		Example of weight measurement using AC excited load cell		23E-B: Doc 23E-B: Sample
11		Example of 4-20mA transmitter using built-in D/A converter		23E-B: Doc 23E-B: Sample

Item		Content		Link
Solution				
12	Functional safety	Portal page	IEC61508 functional safety solutions for industry	Web site
13		Other information	Functional safety solution for industrial automation	Doc
14			Introduction to renesas functional safety (video)	Web site
Support				
1	Support information		FAQ (frequently asked inquiries)	Web site
2			RX forum (community)	Web site
3			Ask to technical support Note: Please click login in the upper right corner	Web site

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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

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