RZ/A3M Group
Handbook for RZ/A3M

Introduction

This document compiles useful information for each stage of device selection, development, and Mass production. You can also select what you need for your application from our rich selection of application notes that describe how to use a peripheral function, example applications, how to create a program, and more.

Please utilize these information, materials and application notes as a handbook when developing.

Target Device

RZ/A3M Group

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1. The table of information and materials needed for Device Selection, Development and Mass production.

1.1 Step1: Device Selection

This section summarizes the information that is useful for the preliminary survey phase (Step1-1) and for the evaluation phase for device performance and features (Step1-2) when selecting the device.

1.1.1 Step1-1: Preliminary survey phase

#	Item	Contents	Link
1	**Hardware information**	Datasheet	Doc
2	**Products & Solutions**	RZ/A3M Group Home Page	Web site
3		RZ/A3M Group Flyer	Doc
4		RZ Family Brochure	Doc
5		Video	Web site
6		News & Blog	Web site
7		Renesas Wiki - RZ/A Series 32/64-bit MPUs	Web site
8		Reference designs (Winning combination)	Web site

1.1.2 Step1-2: Evaluation phase for device performance and features

#	Item	Contents	Link
User's Manual / Documentation			
1	**Document**	User's manual: Hardware	Doc
2		Technical update (errata information)	Web site
3		Product change notice (PCN)	Web site
4		RZ Family NOMENCLATURE (Part number guide, the meaning of character in part number)	Doc
5		Semiconductor reliability handbook	Doc
6		RELIABILITY REPORT	Doc
7		RoHS Note: Product Options → Part Number →Package information → RoHS Info	Web site
8		Renesas Flexible Software Package (FSP) User's Manual	Web site
Evaluation Board			
9	**Evaluation Board (for General purpose)**	Evaluation Kit for RZ/A3M MCU Group (EK-RZ/A3M)	Web site
Evaluation environment (set up method)			
10	**Hardware development**	EK-RZ/A3M v1 Quick Start Guide	Doc
11		EK-RZ/A3M v1 User's Manual	Doc
12		EK-RZ/A3M v1 Errata	Doc
13	**Software development**	RZ/A3M FSP Example Project Bundle	Doc
14		RZ Family Development Environment - RZ Flexible Software Package (FSP)	Web site
Training			
15	**Training information**	RZ Family Video Library	Web site
16		Software & Tool Course solution menu	Web site
17		RZ MPU Family Course	Web site*
Partner			
18	**Partner information**	Partner products (system solutions provider)	Web site
19		RZ Family Partner Ecosystem	Web site

*It requires Renesas Academy account to access the contents.

1.2 Step2: Product Design, Development

This section summarizes useful information for product design and development.

#	Item	Contents	Link
1	**Board Design**	PCB Design Checklist	Doc
2		PCB Design Guidelines for MIPI-DSI and USB2.0	Doc
3		PCB Verification Guide for Core VDD and DDR3L DDR_VDDQ	Doc
4		EK-RZ/A3M Design Package	Doc*
5		ECAD model Note: ECAD can be found by clicking on the respective part number of the product options.	Web site
6		Package information (package outline information, mount manual, etc.)	Web site
7		IBIS Model for RZ/A3M	Doc*
8		PDN Model	Doc*

*It requires My Renesas account to access the contents.

Supportive information

Get help from our technical staff and community.

#		Link
1	FAQ (frequently asked inquiries)	Web site
2	RZ forum (community)	Web site
3	RZ Online Training Modules	Web site*
4	Technical support	Web site

*It requires Renesas Academy account to access the contents.

2. Summary of information by category

This part shows the information about application notes by the category.
(Note: To access contents of sample code, My Renesas account is required.)

Overview

#	Main Item	Description
1	Basic	Hardware Design / Software for start-up / Clock / Voltage / Memory
2	CAD Models	MCU peripheral function

2.1 RZ/A3M Application note [Basic]

#	Title	Contents	Sample code*
1	EK-RZ/A3M v1 Quick Start Guide	This Quick Start Guide (QSG) provides instructions for running the Quick Start example project and instructions for importing, modifying, and building it.	Download
2	RZ/A3M FSP Example Project Bundle	This document describes the contents of the Example Project Bundle for RZ/A Flexible Software Package	Download
3	PCB Design Checklist	This document summarizes hardware design knowledge required to design PCBs with target devices, along with design examples and a design checklist	-
4	PCB Design Guidelines for MIPI-DSI and USB2.0	This guide helps to verify PCB design of MIPI-DSI and USB2.0	-
5	PCB Verification Guide for Core VDD and DDR3L DDR_VDDQ	This guide helps to verify PCB design of Core VDD and DDR3L DDR_VDDQ	-
6	Design of Power Supply Circuits for RZ/A3M using DA9080	This document describes all the register default settings of the DA9080-62 for supplying power to the RZ/A3M systems.	-
7	Power Consumption Measurement	This application note provides measurement results of the power consumption of RZ/A3M in some use cases	-
8	Reference Power Consumption Guide	This application note provides measurement results of power consumption as a reference	-
9	Thermal Management Guideline	This guide describes the calculation results of power consumption, limit Ta and θja as reference	-
10	Mechanical Handling Guideline	This application note provides guidance on the mechanical handling	-
11	Mount Conditions Reflow Soldering Conditions	This application note is intended to provide a profile for solder reflow mounting	-
12	Mount Conditions Baking Conditions	The purpose of this application note is to provide conditions for baking	-
13	Lifetime Guideline	This guide helps to estimate product lifetimes for the target devices based on the criteria used in the qualification process.	-
14	Reliability Report	This guide describes the reliability test result and means to estimate the failure rate	-

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Software Development: "EK-RZ/A3M v1 Quick Start Guide" is the first step to run and modify RZ/A3M software. "EK-RZ/A3M Example Project Bundle" provides various sample programs to operate RZ/A3M peripherals.
PCB Design: "PCB Design Checklist" is the hardware design guide. Please also see "PCB Design Guidelines for MIPI-DSI and USB2.0" for high-speed signal design and "PCB Verification Guide for Core VDD and DDR3L DDR_VDDQ" for power supply design.
If using PMIC for power supply, "Design of Power Supply Circuits for RZ/A3M using DA9080" describes recommended PMIC (DA9080-62).

2.2 RZ/A3M Cad Models

#	Title	Contents	Sample code
1	IBIS Model*	IBIS model for circuit simulation	-
2	BSDL Model*	BSDN model for boundary scan	-
3	PDN Model*	PDN model used for power distribution network (PDN) simulation in "PCB Verification Guide for Core VDD and DDR3L DDR_VDDQ"	-

*It requires My Renesas account to access the contents.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	May.19.2025	-	First edition issued
1.01	Jun.18.2025	2	RZ/A3M Group Home Page was added Renesas Wiki was added
		3	EK-RZ/A3M v1 Quick Start Guide was added EK-RZ/A3M v1 Errata was added EK-RZ/A3M Example Project Bundle was deleted RZ/A3M FSP Example Project Bundle was deleted
		4	EK-RZ/A3M Design Package was added
		5	EK-RZ/A3M v1 Quick Start Guide was added RZ/A3M FSP Example Project Bundle was added Design of Power Supply Circuits for RZ/A3M using DA9080 was added