

RZ/A3UL Group

Handbook for RZ/A3UL

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 this information, materials and application notes as a handbook when developing.

Target Device

RZ/A3UL Group

Contents

1. The table of information and materials needed for Device Selection, Development and Mass production.....	2
1.1 Step1: Device Selection	2
1.1.1 Step1-1: Preliminary survey phase	2
1.1.2 Step1-2: Evaluation phase for device performance and features	3
1.2 Step2: Product Design, Development	4
Supportive information.....	4
2. Summary of information by category	5
2.1 RZ/A3UL Application note/ related information.....	5

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/A3UL Group Home Page	Web site
3		RZ/A3UL 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 Web site
9		Overview of product longevity program (PLP)	Web site
10	Product longevity program (PLP)	Product selection (product selector) Note: Refer to PLP column in the chart.	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		RZ Family NOMENCLATURE (Part number guide, the meaning of character in part number)	Doc
4		Semiconductor reliability handbook	Doc
5		Reliability Report	Doc
6		RoHS Note: Product Options → Part Number →Package information → RoHS Info	Web site
Evaluation Board			
7	Evaluation Board	RZ/A3UL Evaluation Board Kit	Web site
Evaluation environment (set up method)			
8	Hardware development	RZ/G2UL, RZ/A3UL, RZ/Five SMARC Module Board User's Manual: Hardware	Doc
9		RZ SMARC Series Carrier Board User's Manual: Hardware	Doc
10	Software development	RZ/A3UL, RZ/A3M Getting Started with RZ Flexible Software Package	Doc
11		RZ Flexible Software Package (FSP)	Web site
12		RZA3UL-EVK Example Project Bundle	Zip ^{*1}
13		Release Note for RZ/A Initial Program Loader	Doc
14		e ² studio - information for RZ Family	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 ^{*2}
Partner			
18	Partner information	Partner products (system solutions provider)	Web site
19		RZ Family Partner Ecosystem	Web site

*1 It requires My Renesas account to access the contents.

*2 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	Zip
2		PCB Design Guidelines for MIPI CSI-2, MIPI DSI, and USB2.0	Doc
3		PCB design guideline for DDR4/DDR3L	Zip
4		PCB Verification Guide for Core VDD	Zip
5		RZ/G2UL Type-1, RZ/A3UL and RZ/Five Pin Compatibility Guide	Doc
6		Reference Desing Data (SMARC/QSPI Edition)	Zip*
7		Reference Desing Data (SMARC/OCTAL Edition)	Zip*
8		Reference Desing Data (Carrier Board)	Zip*
9		ECAD model Note: ECAD can be found by clicking on the respective part number of the product options.	Web site
10		Package information (package outline information, mount manual, etc.)	Web site
11		IBIS	Zip*
12		BSDL	Zip*
13		RZ Family DRAM List	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.)

2.1 RZ/A3UL Application note / related information

#	Title	Contents
1	RZ/A3UL, RZ/A3M Getting Started with RZ Flexible Software Package	This manual describes how to use the RZ Flexible Software Package (FSP) for developing applications for the RZ microprocessor series.
2	RZ Flexible Software Package (FSP)	The Renesas RZ Flexible Software Package (FSP) is an enhanced software package designed to deliver user-friendly, scalable, high-quality software for embedded system designs using the Renesas RZ family of Arm® microprocessors.
3	Migrating Projects to RZ FSP v4.x.x	This application note describes how to migrate projects that use the legacy RZ/A, RZ/G, RZ/N, RZ/T, and RZ/V Flexible Software Packages (FSPs) to the new unified RZ FSP v4.x.x.
4	PCB Design Checklist	This document summarizes hardware design knowledge required to design PCBs with target devices, along with design examples and a design checklist.
5	PCB Design Guidelines for MIPI CSI-2, MIPI DSI, and USB2.0	This guide helps to verify PCB design of MIPI and USB2.0.
6	PCB Verification Guide for Core VDD	This document is provided as a PCB verification guide for PDN of the Core (VDD).
7	PCB design guideline for DDR4/DDR3L	This guideline provides a PCB design method that considers fulfilling verification items in "PCB verification guide".
8	Mechanical Handling Guideline	This application note provides guidance on the mechanical handling.
9	Thermal Management Guide	The calculation results of power consumption, Limit Ta and θja are shown after the next page as reference.
10	Reference Power consumption	The calculation results of power consumption are shown as reference.
11	Reflow Soldering conditions	This application note is intended to provide Renesas customers with a profile for solder reflow mounting.
12	Baking conditions	The purpose of this application note is to provide Renesas customers with conditions for baking.
13	Lifetime estimation guide	This guide helps PCB design engineers to estimate product lifetimes for the target devices based on the criteria used in the qualification process.
14	Power Management IC on EVK	Recommended power management IC (PMIC) for RZ/A3UL.
15	Clock Generator IC on EVK	Recommended clock generator IC for RZ/A3UL.
16	Semiconductor Package Mount Manual	This manual provides guidance on soldering methods, printed wiring board design, mounting processes, storage, and related issues for semiconductor packages.
17	Reliability report	This guide describes the reliability test result and means to estimate the failure rate.
18	RZ Family DRAM List	This DRAM list for RZ MPUs would help RZ customers to choose an appropriate DRAM among many products.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jun.22, 2026	-	First edition issued
1.01	Aug.24, 2026	3,4,5	Reviewed the URLs