

Application Note

DA9292-AKOVx Variant Overview

AN-PM-191

Abstract

This application note describes all the register default settings of the DA9292-AKOVx variant.

DA9292-AKOVx Variant Overview

Contents

Abstract 1

Contents 2

Tables 2

1 Terms and Definitions..... 3

2 References 3

3 Variant Table and Ordering Information 4

4 DA9292-AKOVx Detailed Description - Production Release..... 5

 4.1 CONF = AVDD (2CH2PH) 5

5 DA9292-AKOVx Variant Overview 7

Revision History 8

Tables

Table 1: Variant Table 4

Table 2: Register Settings DA9292-AKOVx Variant - CONF = AVDD (2CH2PH) 5

Table 3: OTP Variant Overview..... 7

1 Terms and Definitions

CH	Channel
DVC	Dynamic voltage control
OTP	One Time Programmable
WLCSP	Wafer Lever Chip Scale Package

2 References

[1] DA9292_Datasheet, Renesas Electronics.

Note 1 References are for the latest published version, unless otherwise indicated.

3 Variant Table and Ordering Information

Table 1: Variant Table

Part Number	Package	Size (mm)	Shipment Form	Pack Quantity
DA9292-AKOV2	WLCSP 54L	2.48 x 3.68 x 0.4 mm pitch	Tape & Reel	10000
DA9292-APOVC				1000

4 DA9292-AKOVx Detailed Description - Production Release

4.1 CONF = AVDD (2CH2PH)

Key settings:

- 2CH2PH operation
- VCH1_LO = VCH1_HI = 0.3 V, VCH2_LO = VCH2_HI = 0.3 V
- CH1 & CH2 are OFF by default, CH1/2_EN functions enabled (EN1/2_PD enabled)
- CH1 & CH2 operate in PWM mode, 3 MHz
- I²C standard speed. I²C slave address = 0x6A (7-bit) / 0xD4 (8-bit)

Table 2: Register Settings DA9292-AKOVx Variant - CONF = AVDD (2CH2PH)

Register Address	Function	Default Value	Description
0x04	PMC_MASK_00	0xFF	IRQ events masked
0x05	PMC_MASK_01	0x07	IRQ events masked
0x06	PMC_CTRL_00	0x01	Set to 2CH2PH
0x07	PMC_CTRL_01	0x00	VCH1/2 range = 0.3 V to 1.275 V, CH1/2 PD enabled, VSEL1/2 low and EN1/2 disabled
0x08	PMC_CTRL_02	0x35	CH1 operates in Full Phase (2-phase), CH2 operates in 2-phase
0x09	PMC_CTRL_03	0x55	CH1/2 operate in PWM mode
0x0A	PMC_VOUT_CH1_00	0x3C	VCH1_VSEL_LO = 0.3 V
0x0B	PMC_VOUT_CH1_01	0x3C	VCH1_VSEL_HI = 0.3 V
0x0C	PMC_VOUT_CH2_00	0x3C	VCH2_VSEL_LO = 0.3 V
0x0D	PMC_VOUT_CH2_01	0x3C	VCH2_VSEL_HI = 0.3 V
0x0E	PMC_CFG_00	0x33	EN1/2_EN functions enabled, EN1/2_PD enabled
0x0F	PMC_CFG_01	0x22	CH1/2_ILIM=12.5A
0x10	PMC_CFG_02	0x00	VSEL1/2 debounce OFF
0x11	PMC_CFG_03	0x00	EN1/2 debounce OFF
0x12	PMC_CFG_04	0xFF	CH1/2 slew rate (startup/shutdown) is 5 mV/μs
0x13	PMC_CFG_05	0xFF	CH1/2 DVS slew rate (up/down) is 10 mV/μs
0x14	PMC_CFG_06	0xA0	I ² C timeout enabled, Voutmax=1.275 V, OV masked, OC & PG not masked, PB configured as Power-Bad
0x15	PMC_CFG_07	0x04	Event flags are not cleared
0x16	PMC_CFG_08	0x00	PB and TW are not configured
0x17	PMC_CFG_09	0x50	PB debounce set to 10 μs, TW_N debounce is OFF
0x18	PMC_CFG_0A	0xD4	I²C slave address is 0xD4 (8-bit) [0x6A (7-bit)] (standard/fast-mode)

DA9292-AKOVx Variant Overview

Register Address	Function	Default Value	Description
0x1B	PMC_CFG_REV	0x0A	OTP variant: 0x0A(hex) = 10(dec) is equivalent to AK (0=AA, 1=AB and 10=AK)

DA9292-AKOVx Variant Overview

5 DA9292-AKOVx Variant Overview

Table 3: OTP Variant Overview

Reg Add	Function	Standard Variant DA9292-AKOVx
		CONF = AVDD (2CH2PH)
0x04	PMC_MASK_00	0xFF
0x05	PMC_MASK_01	0x07
0x06	PMC_CTRL_00	0x01
0x07	PMC_CTRL_01	0x00
0x08	PMC_CTRL_02	0x35
0x09	PMC_CTRL_03	0x55
0x0A	PMC_VOUT_CH1_00	0x3C
0x0B	PMC_VOUT_CH1_01	0x3C
0x0C	PMC_VOUT_CH2_00	0x3C
0x0D	PMC_VOUT_CH2_01	0x3C
0x0E	PMC_CFG_00	0x33
0x0F	PMC_CFG_01	0x22
0x10	PMC_CFG_02	0x00
0x11	PMC_CFG_03	0x00
0x12	PMC_CFG_04	0xFF
0x13	PMC_CFG_05	0xFF
0x14	PMC_CFG_06	0xA0
0x15	PMC_CFG_07	0x04
0x16	PMC_CFG_08	0x00
0x17	PMC_CFG_09	0x50
0x18	PMC_CFG_0A	0xD4
0x1B	PMC_CFG_REV	0x0A

Revision History

Revision	Date	Description
1	15-Apr-2024	Initial version.
2	30-Aug-2024	Updated I2C slave address information in section 4.1.
3	03-Apr-2024	Updated section 3.

DA9292-AKOVx Variant Overview

Status Definitions

Status	Definition
DRAFT	The content of this document is under review and subject to formal approval, which may result in modifications or additions.
APPROVED or unmarked	The content of this document has been approved for publication.

RoHS Compliance

Renesas Electronics' suppliers certify that its products are in compliance with the requirements of Directive 2011/65/EU of the European Parliament on the restriction of the use of certain hazardous substances in electrical and electronic equipment. RoHS certificates from our suppliers are available on request.

DA9292-AKOVx Variant Overview

Important Notice and Disclaimer

RENESAS ELECTRONICS CORPORATION AND ITS SUBSIDIARIES ("RENESAS") PROVIDES TECHNICAL SPECIFICATIONS AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for developers skilled in the art designing with Renesas products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. Renesas grants you permission to use these resources only for development of an application that uses Renesas products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Renesas intellectual property or to any third party intellectual property. Renesas disclaims responsibility for, and you will fully indemnify Renesas and its representatives against, any claims, damages, costs, losses, or liabilities arising out of your use of these resources. Renesas' products are provided only subject to Renesas' Terms and Conditions of Sale or other applicable terms agreed to in writing. No use of any Renesas resources expands or otherwise alters any applicable warranties or warranty disclaimers for these products.

© 2025 Renesas Electronics Corporation. All rights reserved.

(Rev.1.0 Mar 2020)

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu

Koto-ku, Tokyo 135-0061, Japan

www.renesas.com

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit:

<https://www.renesas.com/contact/>

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.