



Innovations
from
Semiconductor

Product Introduction

Power management IC BD9596MWV

Rev1.0



ROHM Co., Ltd.

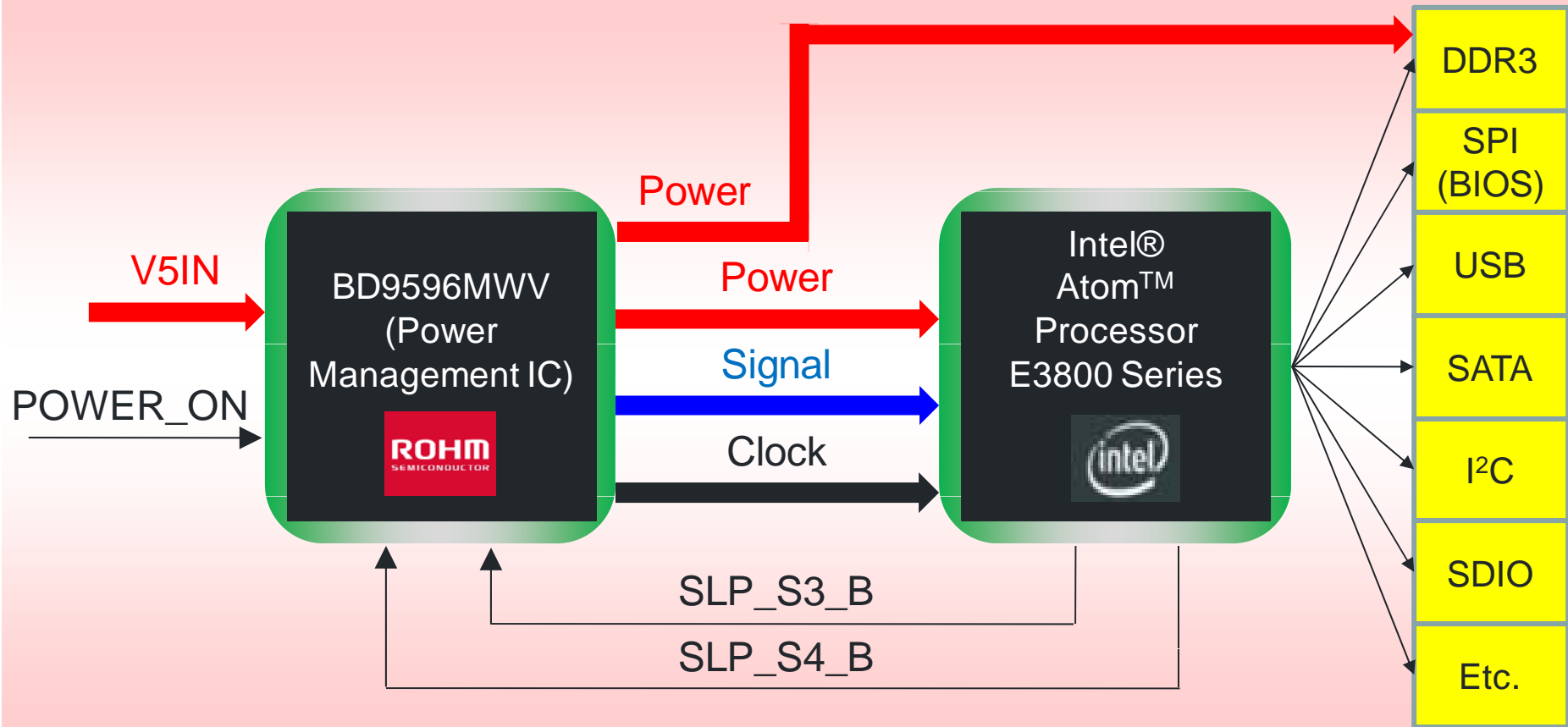


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Power Management System Block Diagram

Stand alone system without the external control



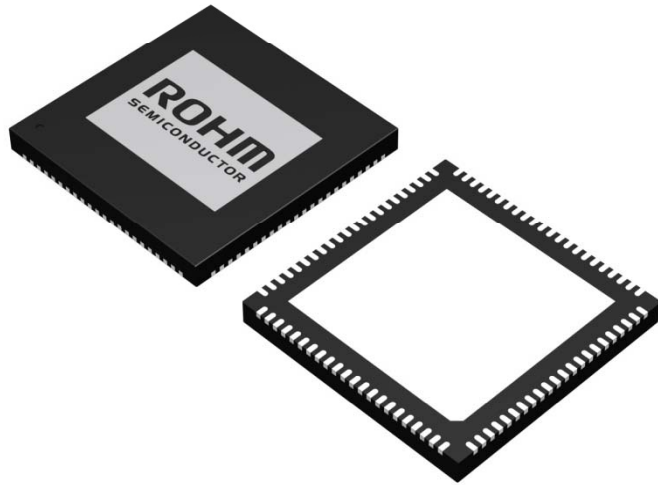
● System Features

This system is designed as a stand alone system without the external control.

Power-Management-System ([BD9596MWV](#)) is designed for Bay Trail-I platform.

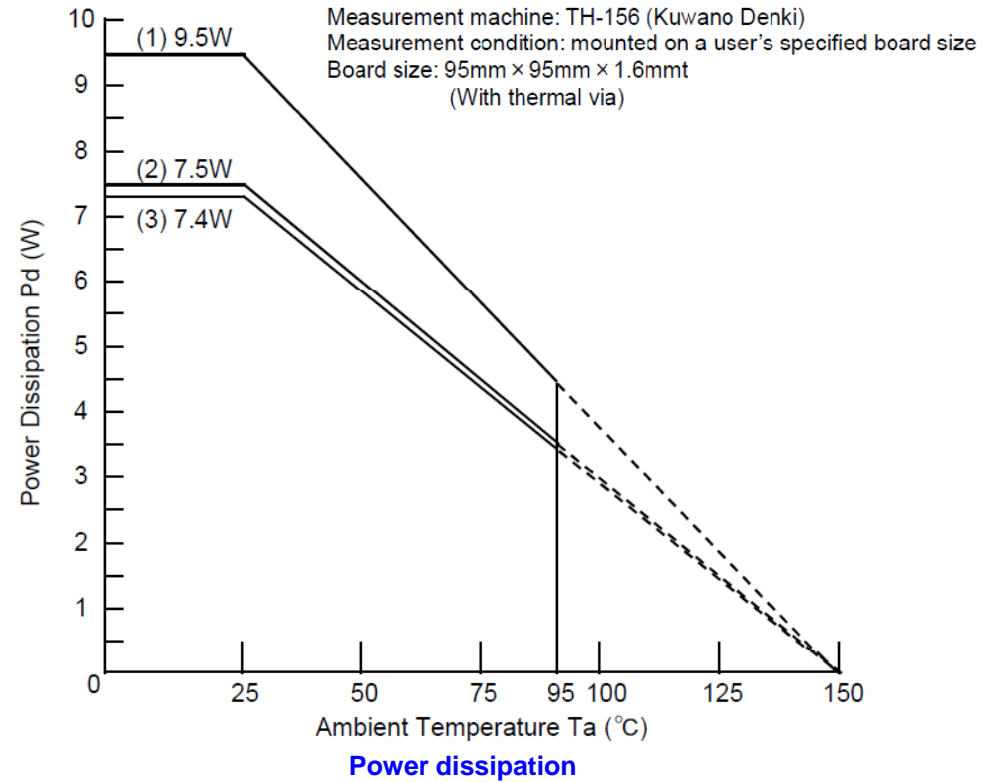
[BD9596MWV](#)

- Bay Trail-I PMIC for IVI General Embedded application.
- Wide input range (3.5V~5.5V) and temperature range (-40°C~95°C)
- Built-in Power Management (sequence control) for Bay Trail-I and DDR3.
- 2ch DC/DC controller, 3ch DC/DC regulator, 2ch IMVP7Lite compatible DCDC controller, 7ch LDO, 1ch load switch and 1ch VTT.
- A simple system configuration can be achieved along with Bay Trail-I.
- This device starts up by itself resulting in reduction of external component counts and board space.
- Controlling power regulation for each state (S4/S5, S3 and S0) results in a low power regulator.
- Built in the reference clock (RTCCLK) : 32.768kHz±5%.
- UVLO, TSD, SCP and OVP protection are featured for the high quality system.



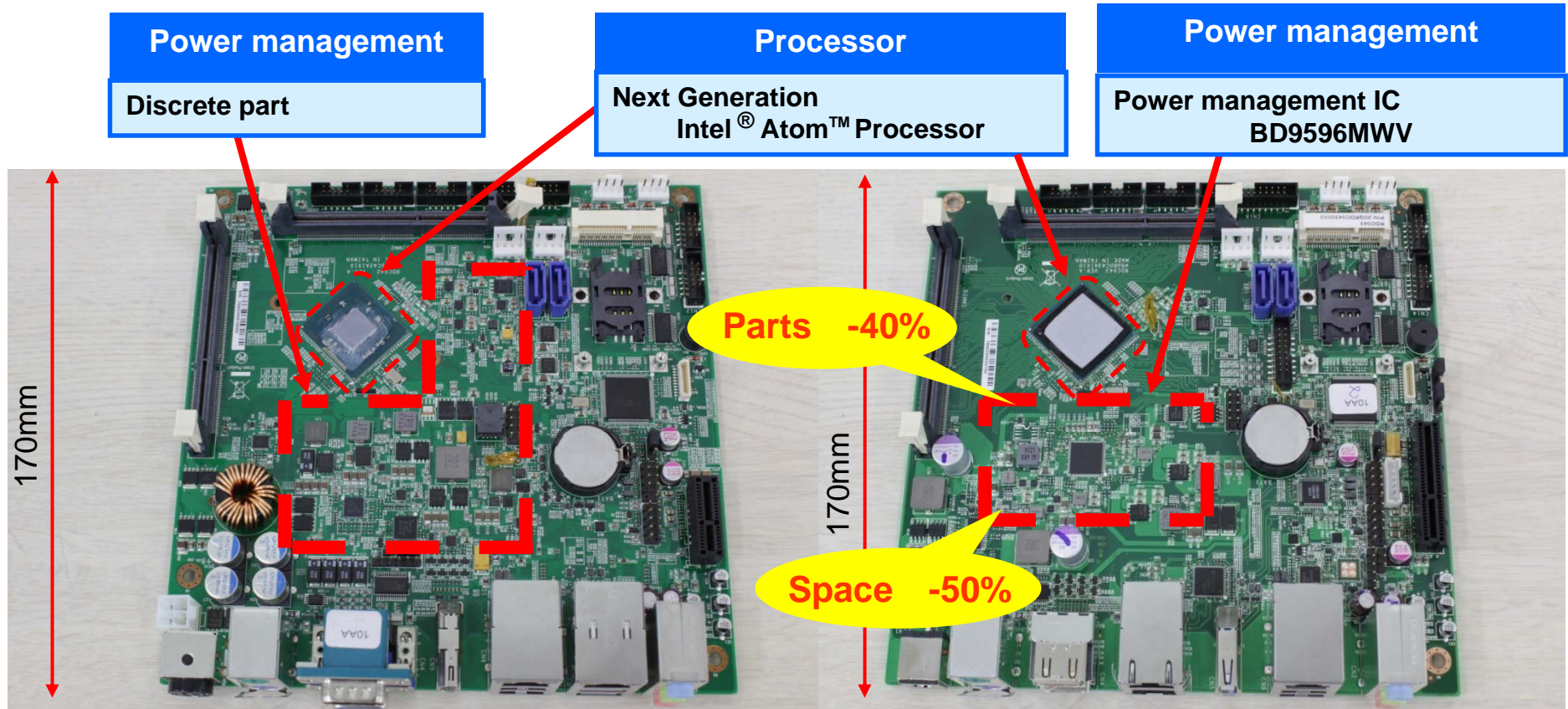
UQFN88MV0100

- **UQFN88pin Package**
(0.4mm Pitch, 10mm x 10mm, t=1.0mm Max)



- Board (1): 8 layered board
(Surface: product pattern + 7 layers: all copper foil area)
- Board (2): 8 layered board
(Surface: product pattern + 2 layers: all copper foil area
+ 5 layer: wiring pattern copper foil 70% occupied)
- Board (3): 8 layered board
(Surface: product pattern + 2 layers: all copper foil area
+ 5 layer: wiring pattern copper foil 50% occupied)

GOJYO-BT development



Power management
Discrete part

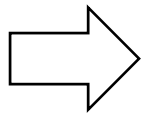
Processor
Next Generation
Intel® Atom™ Processor

Power management
Power management IC
BD9596MWV

Parts -40%

Space -50%

Area for Power Management
8000mm² (Discrete component)



Area for Power Management
3760mm² (Power Management IC component)

BOJYO-BT specification

Product Specification1		
Form factor		Industrial Standard Mini-ITX: 170mmx170mm (6.7"x6.7")
Processor		Bay Trail-D (J1900, 4C @ 2.00GHz, 10W) Bay Trail-M (N2920, 4C @1.60GHz, 7.5W) Bay Trail-I (E3827, 2C @1.75GHz, 8W)
Memory	Type	SO-DIMM Slot x 2 in DDR3L-1333 Dual-Channel
	Capacity	1GB/2GB/4GB/8GB per Slot
Graphic	Controller	Integrated Gen 7 Graphics and Media Encode/Decode
	HDMI	x2 (Dual-Display Capability)
USB	USB3.0	SoC Integrated USB3.0 Controller: Single Port
	USB2.0	SoC Integrated USB2.0 Controller: 4 Ports USB 2.0 Hub (4 Ports)
Network		Intel I211 PCIe GbE LAN Controller
Super I/O		ITE IT8786E
Storage	SATA2.0x2	SoC Integrated SATA2.0 Controller, SATA 0/1 @ 3Gb/S
SD		SD Socket
Audio	HAD	Realtek ALC886-GR High Definition Audio Codec

Product Specification2		
Edge I/O	Serial Port	COM1: DB9 Male Connector (RS232 Only) COM2: DB9 Male Connector (RS232/422/485)
	USB3.0	USB3.0 Type-A Connector (USB2.0 Compatibility)
	LAN/USB2.0x 2	Triple-Stack RJ-45 + USB2.0 Type-A Connector x 2
	Audio	Phone Jack (Green): Line-Out Phone Jack (Pink): Mic-In Phone Jack (Blue): Line-In
	KB/MS	Dual-Stack PS/2 Connector
Internal I/O	Serial	COM3-6: 5x2-Pin 2.0mm Box Header (RS232)
	LPT	13x2-Pin 2.0mm Box Header
	USB2.0	5x2-Pin 2.54mm Pin Header 6x1-Pin 2.5mm JST Wafer
	SATA	4-Pin SATA Connector x 2 4-Pin Power Connector x 2
	Front Panel I/O	4x2-Pin 2.54mm Pin Header Power/HDD LEDs, Power/Reset Buttons
	Others	Built-In Buzzer FAN Connector x 2: 4x1-Pin 2.5mm Wafer
Expansion Slot		PCIe2.0 x1 Slot Mini-Card (PCIe2.0 x1, USB2.0, SMB, and SIM)

◆ Features

- Mini-ITX M/B (170mm x 170mm)
- Intel® Bay Trail-I/-D/-M SOC processor
- 2 x DDR3L SO-DIMM non-ECC 1333 UP to 8GB
- Support 1 x PCIe [x 1] (Gen. 2.0) / 1x mPCIe
- Support 2 x HDMI / 1 x VGA
- 2x GbE LAN support
- 2 x SATA3.0 / 6 x COM / 6 x USB2.0 / 1 x USB3.0
- 12V single DC input (Power designed by ROHM PMIC solution)



Same feature as “GOJYO-BT”

[NEX616 can be purchased from NEXCOM \(Taiwan\)](#)

Download the material

