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<th>Model</th>
<th>Flash</th>
<th>SRAM</th>
<th>I/O lines</th>
<th>Octa/Hyper Bus</th>
<th>MLB (MOST)</th>
<th>Video in</th>
<th>Display out</th>
<th>Subclock</th>
<th>Other features</th>
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<tr>
<td>RH850/F12</td>
<td>3.0...5.5</td>
<td>3.0 - 5.5</td>
<td>4/4</td>
<td>6x MSPI, 4x FlexRay, 2x I2S, Ethernet AVB, 2x PSI5</td>
<td>16x 12-bit</td>
<td>4x SMC, 4x D/A</td>
<td>32x 12-bit</td>
<td>36x 24-bit</td>
<td>9x 10-bit / -</td>
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<tr>
<td>RH850/F13-LIN</td>
<td>3.0...5.5</td>
<td>3.0 - 5.5</td>
<td>4/4</td>
<td>6x MSPI, 4x FlexRay, 2x I2S, Ethernet AVB, 2x PSI5</td>
<td>16x 12-bit</td>
<td>4x SMC, 4x D/A</td>
<td>32x 12-bit</td>
<td>36x 24-bit</td>
<td>9x 10-bit / -</td>
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<tr>
<td>RL78/F13-CAN</td>
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<td>6x MSPI, 4x FlexRay, 2x I2S, Ethernet AVB, 2x PSI5</td>
<td>16x 12-bit</td>
<td>4x SMC, 4x D/A</td>
<td>32x 12-bit</td>
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<td>9x 10-bit / -</td>
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<td>F1KM-S4</td>
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</table>

**Note:** The table above provides a summary of some of the features and specifications of the models listed. For detailed information, please refer to the original document or the manufacturer's official resources.
<table>
<thead>
<tr>
<th>Part number</th>
<th>Group</th>
</tr>
</thead>
</table>
| R-Car D3e R8A779M7 1x Cortex A53 | \( \text{Nickname} = \text{R-Car} \)
| R-Car E3e R8A779M6 2x Cortex A53 | \( \text{Group} = \text{R-Car} \)
| R-Car M3Ne-2G R8A779M5 2x Cortex A57 | \( \text{Part number} = \text{R-Car} \)
| R-Car H3Ne R8A779M8 | \( \text{Part number} = \text{R-Car} \)
| R-Car V4H R8A779G0LA01BA 3x CR52 Lockstep | \( \text{Part number} = \text{R-Car} \)
| R-Car V4M R8A779H1LL31BA 3x CR52 Lockstep | \( \text{Part number} = \text{R-Car} \)
| R-Car V3M R8A77970 CR7 Lockstep | \( \text{Part number} = \text{R-Car} \)
| R-Car H3e R8A779M0 | \( \text{Part number} = \text{R-Car} \)

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<tr>
<th>Frequency</th>
<th>PowerVR</th>
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<th>FlexRay</th>
<th>JTAG</th>
<th>HDMI</th>
<th>Ethernet</th>
<th>UART</th>
<th>SPI</th>
<th>I2C</th>
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<th>Package</th>
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<tbody>
<tr>
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<td>4x CA76</td>
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<td>4x UART</td>
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<td>419 balls</td>
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<tr>
<td>1 GHz / 27 kDMIPS</td>
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</table>
Renesas Electronics

SOFTWARE TOOLS

Renesas is working closely with multiple partners in order to extend the software offer and support customer development efforts.

R-Car Software Development Kit: Easy to start, easy to configure.

For more information refer to: www.renesas.com/document/bro/product-scout-automotive?language=en&r=169766

The core system is realized by installing the R-Car S4, LPDDR4x-3200 and four processors of different performance levels, with 20-pin JTAG connector for JTAG2, Peripheral interfaces: on-chip debugging for ARM Cortex-A53 and ARM Cortex-A57, 4x Ethernet AVB, 16 ports GMSL camera input option-board, and Ethernet AVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable.

For R-Car E3

Order code: Y-R-CAR-E3-BOARD-DEV-WS11 / RTP0RC77990SEB0020SA00

Package includes CD with user's manual, schematic and boot software

Audio Output and Microphone Input

32GB eMMC

64 MB NOR Flash Memory

Y-R-CAR-E3-BOARD-DEV-WS11 / RTP0RC77990SEB0020SA00

Y-SICA20I2P (JTAG Debug Adapter)

Order codes: Y-ASK-RCAR-H3E-8GB-WS30 / RTP8J779M1ASKB0SL0SA103 (with soldered H3e-2G)

USB and HDMI cable

Power supply

Add. interfaces & SOC signals via COM Express connector (440-pin)

Ethernet, Micro SD, USB, Micro HDMI display out

64 MB QSPI flash

RTP8A779G0ASKB0FS0SA000

The core system is realized by installing the R-Car S4, LPDDR4x-3200 memory, and four processors of different performance levels, with 20-pin JTAG connector for JTAG2, Peripheral interfaces: on-chip debugging for ARM Cortex-A53 and ARM Cortex-A57, 4x Ethernet AVB, 16 ports GMSL camera input option-board, and Ethernet AVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable.

For R-Car D3

Order Code:  Y-RCAR-V3H-CONDOR-I-BRD-WS20 / RTP0RC77980SEBS012SA01

Package includes CD with User's Manual, Schematic and boot software

7.1 Audio output, Video input, CSI camera I/F, FM/AM radio

JTAG debug connector

Software

(4 port GMSL camera input option-board)

www.isystem.com

Equipment:

PCIE x 4 connectors (2 lanes) for PCIE

Network interfaces:

‘Debug Serial’ connector for SCIF0 or HSCIF0_B

2 Gbytes DDR3L-1600

Serial NOR flash memory (64 MB)

Device for QSPI0

Serial NOR flash memory for QSPI1

64 MB QSPI flash

Power Supply

RTP8J779M1ASKB0SL0SA103 (with soldered H3e-2G)

8GB LPDDR4-DRAM-3200 [H3 and M3]

64 MB NOR Flash Memory

Y-R-CAR-M3W-8GB-BOARD-SKT-WS30 / RTP0RC7796SIPB0012SS5A

Y-R-CAR-M3N-SIP-BOARD-SKT-ES20 / RTP0RC77965SIPB012S-S

JTAG, Debug Interface

USB& HDMI Cable

Starter Kit

Y-ASK-RCAR-V3M-WS20-REV2 (with Renesas PMIC)

Y-ASK-RCAR-V3M-WS20-REV2 (with Renesas PMIC)

RTP8A779G0ASKB0FS0SA000

Please contact Renesas for more information.

www.renesas.com

www.isystem.com

For AUTOSAR AR4.X based MCAL for Cortex R

communication drivers and test drivers

Renesas E-Car CNN toolchain

Support the Computer Vision simulators

Includes:

Integrated within R-Car SDK

Seamless integration with ONNX Runtime on ARM CPUs for wide flexibility

Network conversion from Caffe or ONNX model to binary for efficient utilization

Software API for 3rd party tools and device for QSPI1

On-Chip and Off-Chip Trace (Parallel and Sequential)

”Off-Chip HSSTP Trace for R-Car

Off-Chip HSSTP Interface

On-Chip debugging for

’Debug Serial’ connector for SCIF0 or HSCIF0_B

Gigabit Ethernet (GbE) connector for EthernetAVB

HDMI output connector for LVDS

Display interfaces :

SDRAM :

EthernetAVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable

Power Supply

JTAG, Debug Interface

USB& HDMI Cable

Starter Kit

Y-ASK-RCAR-V3M-WS20-REV2 (with Renesas PMIC)

Please contact Renesas for more information.

www.renesas.com

For more information refer to: www.renesas.com/document/bro/product-scout-automotive?language=en&r=169766

The core system is realized by installing the R-Car S4, LPDDR4x-3200 memory, and four processors of different performance levels, with 20-pin JTAG connector for JTAG2, Peripheral interfaces: on-chip debugging for ARM Cortex-A53 and ARM Cortex-A57, 4x Ethernet AVB, 16 ports GMSL camera input option-board, and Ethernet AVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable.

For R-Car V3H

Order Code:  Y-RCAR-V3H-CONDOR-I-BRD-WS20 / RTP0RC77980SEBS012SA01

Package includes CD with User's Manual, Schematic and boot software

7.1 Audio output, Video input, CSI camera I/F, FM/AM radio

JTAG debug connector

Software

(4 port GMSL camera input option-board)

www.isystem.com

Equipment:

PCIE x 4 connectors (2 lanes) for PCIE

Network interfaces:

‘Debug Serial’ connector for SCIF0 or HSCIF0_B

2 Gbytes DDR3L-1600

Serial NOR flash memory (64 MB)

Device for QSPI0

Serial NOR flash memory for QSPI1

64 MB QSPI flash

Power Supply

RTP8J779M1ASKB0SL0SA103 (with soldered H3e-2G)

8GB LPDDR4-DRAM-3200 [H3 and M3]

64 MB NOR Flash Memory

Y-R-CAR-M3W-8GB-BOARD-SKT-WS30 / RTP0RC7796SIPB0012SS5A

Y-R-CAR-M3N-SIP-BOARD-SKT-ES20 / RTP0RC77965SIPB012S-S

JTAG, Debug Interface

USB& HDMI Cable

Starter Kit

Y-ASK-RCAR-V3M-WS20-REV2 (with Renesas PMIC)

Please contact Renesas for more information.

www.renesas.com

For more information refer to: www.renesas.com/document/bro/product-scout-automotive?language=en&r=169766

The core system is realized by installing the R-Car S4, LPDDR4x-3200 memory, and four processors of different performance levels, with 20-pin JTAG connector for JTAG2, Peripheral interfaces: on-chip debugging for ARM Cortex-A53 and ARM Cortex-A57, 4x Ethernet AVB, 16 ports GMSL camera input option-board, and Ethernet AVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable.

For R-Car V3M

Order Code:  Y-RCAR-V4H-WHITEHAWK-BRD-WS10 / RTP0RC77990SEB0020SA00

Package includes CD with User's Manual, Schematic and boot software

Mode switch-board connector

Debugger interfaces: 20-pins JTAG connector for JTAGx

Gigabit Ethernet (GbE) connector for EthernetAVB

HDMI output connector for LVDS

Display interfaces :

SDRAM :

EthernetAVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable

Power Supply

JTAG, Debug Interface

USB& HDMI Cable

Starter Kit

Y-ASK-RCAR-V3M-WS20-REV2 (with Renesas PMIC)

Please contact Renesas for more information.

www.renesas.com

For more information refer to: www.renesas.com/document/bro/product-scout-automotive?language=en&r=169766

The core system is realized by installing the R-Car S4, LPDDR4x-3200 memory, and four processors of different performance levels, with 20-pin JTAG connector for JTAG2, Peripheral interfaces: on-chip debugging for ARM Cortex-A53 and ARM Cortex-A57, 4x Ethernet AVB, 16 ports GMSL camera input option-board, and Ethernet AVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable.

For R-Car D3

Order Code:  Y-RCAR-V4H-WHITEHAWK-BRD-WS10 / RTP0RC77990SEB0020SA00

Package includes CD with User's Manual, Schematic and boot software

Mode switch-board connector

Debugger interfaces: 20-pins JTAG connector for JTAGx

Gigabit Ethernet (GbE) connector for EthernetAVB

HDMI output connector for LVDS

Display interfaces :

SDRAM :

EthernetAVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable

Power Supply

JTAG, Debug Interface

USB& HDMI Cable

Starter Kit

Y-ASK-RCAR-V3M-WS20-REV2 (with Renesas PMIC)

Please contact Renesas for more information.

www.renesas.com

For more information refer to: www.renesas.com/document/bro/product-scout-automotive?language=en&r=169766

The core system is realized by installing the R-Car S4, LPDDR4x-3200 memory, and four processors of different performance levels, with 20-pin JTAG connector for JTAG2, Peripheral interfaces: on-chip debugging for ARM Cortex-A53 and ARM Cortex-A57, 4x Ethernet AVB, 16 ports GMSL camera input option-board, and Ethernet AVB, B-Ethernet, Can-FD, I²C, USB and HDMI cable.

For R-Car V3M