RENESAS

Separate Sheet

Product Specifications of the R-Car D1 Series

Product No.	R-Car D1	
	R7S721040[*1] R7S721041[*1*3] R7S721042[*1*4] R7S721043[*1*3*4] R7S721044[*1*5] R7S721045[*1*3*5] R7S721046[*1*4*5] R7S721047[*1*3*4*5]	R7S721060[*2] R7S721061[*2*3] R7S721062[*2*4] R7S721063[*2*3*4] R7S721064[*2*5], R7S721065[*2*3*5] R7S721066[*2*4*5], R7S721067[*2*3*4*5]
Power supply voltage	3.3/1.8 V (IO), 1.35 V (DDR3L), 1.0 V (core)	
CPU core	ARM®Cortex®-A7 Single core [*6][*7] Max. Frequency: 660 MHz	ARM Cortex-A7 Dual core [*6][*7] Max. Frequency:780 MHz
Cache memory	L1 Instruction cache: 32 KB L1 data cache:32 KB L2 cache: 512 KB	
External memory (DDR3L)	DDR3L-SDRAM Data bus width: 32bits x 1ch	
	Max. Frequency: 1066 MHz	Max. Frequency: 1333 MHz
External memory expansion	-NAND flash memory interface -Serial flash memory interface	
2D Graphics	D/AVE HD 2D render core	
	Max. Frequency: 260 MHz	Max. Frequency: 330 MHz
3D Graphics	Imagination Technologies PowerVR® SGX540 core [*8]	
	Max. Frequency: 260 MHz	Max. Frequency: 330 MHz

Video	-Video output interface x 2ch (LVTTL)
	           Max. Output display size: 4096 x 2048
	           RSDS output interface x 1ch (shared with LVTTL) [*6]
	     -LVDS output interface x1ch
	     -Video input interface x 2ch (LVTTL)
	           Max. Input display size：2048 x 2048
	     -MIPI CSI-2 input interface x 1ch
	     -Timing controller for LCD panel
	     -Video decode processor (H.264/MPEG4-AVC, JPEG)[*6]	

Video output checker	-Video output checker (VOCA) x 2ch -Video output CRC checker (DISCOM) x 4ch	
Audio	-Serial sound interface x 2ch -PCM-PWM converter	

Storage interface	-USB 2.0 Host/Function interface (High-Speed/Full-Speed) -Multimedia card interface x 1ch

In car network and automotive peripherals	-Media Local Bus (MLB) interface x 1ch (3-pin interface)
	-Controller Area Network (CAN-FD support[6]) x 3ch
	-Ethernet AVB 1.0-compatible MAC built in
	   Transfer speed: 100Mbps
	   Interface: IEEE802.3 standard MII
	   Ethernet AVB (802.1BA)
	    - IEEE802.1BA
	    - IEEE802.1AS
	    - IEEE802.1Qav
	    - IEEE1722

Other peripherals	-SYS-DMAC x 30ch -Watchdog timer (RWDT) x 1ch -16bit timer x 16ch -32bit timer x 17ch -I2C bus interface x 2ch -Synchronous Serial Interface (MSIOF) x 7ch（SPI/IIS support） -Asynchronous High Speed Serial Interface (HSCIF) x 2ch -Asynchronous/synchronous Serial Communication Interface (SCIF)x 4ch
Package	543-pin FCBGA 1mm pitch (27mm x 27mm)

*1 ARM Cortex-A7 Single core
*2 ARM Cortex-A7 Dual core
*3 RSDS output interface built in
*4 Video decode processor (H.264/MPEG4-AVC、JPEG) built in
*5 Controller Area Network interface (CAN-FD support)
*6 Option function due to a part number
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