September 8, 2011

Product Specifications of the SH726A and SH726B MCUs

1. SH726A

Item			Specification	
Product Classification			SH726A	
Product Code*	16 mm square, 0.5 mm pitch	Industrial usage, etc.	R5S726A0D216FP	R5S726A1D216FP
		Car accessories	R5S726A0P216FP	R5S726A1P216FP
	14 mm square, 0.4 mm pitch	Industrial usage, etc.	R5S726A2D216FP	R5S726A3D216FP
		Car accessories	R5S726A2P216FP	R5S726A3P216FP
Power Supply Voltage			3.3 V / 1.25 V	
Operating Temperature			−40 to +85℃	
CPU Core			SH2A-FPU	
CPU Instruction Number			112 (Including FPU related instructions)	
Built-In RAM			Large Capacity Memory: 1.25 MB (with data retention area)	
			High Speed Memory: 64 KB	
Cache Memory			16 KB (Instruction 8 K / Operand 8 K Separated, 4-way set associative)	
External Memory			Bus Clock Maximum 72 MHz	
			Direct Connect to SRAM and SDRAM by Bus State Controller	
			Address Space 8 MB × 2	
			Data Bus Width: 8- / 16-bit	
Built-In Peripheral Function			SPI Multi I/O Bus Controller	
			Multi-Function Timer Pulse Unit 2 (MTU2) × 5	
			16-bit Compare Match Timer (CMT) × 2	

Item	Specification	
	A/D Converter (10-bit resolution) × 6 Channels	
	USB 2.0 Host/Function Module	
	Serial communication interface with FIFO (SCIF) × 5 Channels	
	(Clocked synchronous or asynchronous mode selectable)	
	I^2C Bus Interface × 4 Channels	
	Serial Sound Interface × 4 Channels	
	Renesas Serial Peripheral Interface × 2 Channels	
	Serial I/O with FIFO	
	Renesas SPDIF Interface	
	SD Host Interface (It requires SD Card License)	
	Real Time Clock	
	CD-ROM Decoder	
	Sampling Rate Convertor × 3 Channels	
	IEBus Interface	
	–	CAN Interface × 2 Channels
	On-chip Debug Function • Advanced User Debugger-II • User Debug Interface • User Break Controller × 2 Channels	
	Direct Memory Access Controller × 16 Channels	
	Interrupt Controller	
	Watch Dog Timer	

Item	Specification
	Clock Pulse Generator (CPG): Input clock can be multiplied by 18 (max.) by the internal PLL circuit
Boot Modes	Boot mode 0: Boots the LSI from the memory connected to the CS0 space
	Boot mode 1: Boots the LSI, through low-speed communication, from the serial flash memory connected to channel 0 of the Renesas serial peripheral interface
Power-down modes	Sleep mode
	Software standby mode
	Deep standby mode
	Module standby mode
Package	120-pin QFP (16 mm × 16 mm) 0.5 mm pitch / 120-pin QFP (14 mm × 14 mm) 0.4 mm pitch

2. SH726B

Item			Specification	
Product Classification			SH726B	
Product Code*	20 mm square, 0.5 mm pitch	Industrial usage, etc.	R5S726B0D216FP	R5S726B1D216FP
		Car accessories	R5S726B0P216FP	R5S726B1P216FP
Power Supply Voltage			3.3 V / 1.25 V	
Operating Temperature			−40 - +85℃	
CPU Core			SH2A-FPU	
CPU Instruction Number			112 (Including FPU related instructions)	
Built-In RAM			Large Capacity Memory: 1.25 MB (with data retention area)	
			High Speed Memory: 64 KB	

Item	Specification	
Cache Memory	16 KB (Instruction 8 K / Operand 8 K Separated, 4-way set associative)	
External Memory	Bus Clock Maximum 72 MHz	
	Direct Connect to SRAM and SDRAM by Bus State Controller	
	Address Space 64 MB × 5	
	Data Bus Width: 8- / 16-bit	
Built-In Peripheral Function	SPI Multi I/O Bus Controller	
	Multi-Function Timer Pulse Unit 2 (MTU2) × 5	
	16-bit Compare Match Timer (CMT) × 2	
	A/D Converter (10-bit resolution) × 8 Channels	
	USB 2.0 Host/Function Module × 2 Channels	
	Serial communication interface with FIFO (SCIF) × 5 Channels (Clocked synchronous or asynchronous mode selectable)	
	I^2C Bus Interface × 4 Channels	
	Serial Sound Interface × 4 Channels	
	Renesas Serial Peripheral Interface × 3 Channels	
	Serial I/O with FIFO	
	Renesas SPDIF Interface	
	SD Host Interface (It requires SD Card License)	
	Real Time Clock	
	CD-ROM Decoder	
	Sampling Rate Convertor × 3 Channels	
	IEBus Interface	
	–	CAN Interface × 2 Channels
	On-chip Debug Function	

Item	Specification
	• Advanced User Debugger-II • User Debug Interface • User Break Controller × 2 Channels
	Direct Memory Access Controller × 16 Channels
	Interrupt Controller
	Watch Dog Timer
	Clock Pulse Generator (CPG): Input clock can be multiplied by 18 (max.) by the internal PLL circuit
Boot Modes	Boot mode 0: Boots the LSI from the memory connected to the CS0 space
	Boot mode 1: Boots the LSI, through low-speed communication, from the serial flash memory connected to channel 0 of the Renesas serial peripheral interface
Power-down modes	Sleep mode
	Software standby mode
	Deep standby mode
	Module standby mode
Package	144-pin QFP (20 mm × 20 mm) 0.5 mm pitch

(Remarks) IEBus™ (Inter Equipment Bus) is a trademark of Renesas Electronics Corporation. All other names of products or services mentioned in this press release are trademarks or registered trademarks of their respective owners.