

C

Memory Type	ROM Bytes	Data Flash Bytes	RAM Bytes	A/D	D/A	Serial Communication	Timers 8/16/32	GPIO	Operating Frequency/Supply Voltage	Temperature	Package	Digi-Key Part No.	1	Price Each 25	100
Flash	8K	1K	1K	9-ch. 10-bit	—	UART, SSI	2/3/—	25	20MHz/3.0 - 5.5V	-20°C - 85°C	32-LQFP	R5F212L2SNFP#U0-ND NEW!	5.24	4.66	3.50
	16K	1K	1.5K	9-ch. 10-bit	—	UART, SSI	2/3/—	25	20MHz/3.0 - 5.5V	-20°C - 85°C	32-LQFP	R5F212L4SNFP#U0-ND NEW!	5.56	4.94	3.71
	32K	—	2K	12-ch. 10-bit	—	UART, SIO, I2C	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21206JFP#U1-ND NEW!	5.34	4.28	3.61
	48K	—	2.5K	12-ch. 10-bit	—	UART, SIO, I2C	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21206KFP#U1-ND NEW!	5.84	4.68	3.95
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21207KFP#U1-ND NEW!	5.84	4.68	3.95
	64K	—	3K	12-ch. 10-bit	—	UART, SIO, I2C	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21208JFP#U1-ND NEW!	6.34	5.08	4.28
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21208KFP#U1-ND NEW!	6.86	5.49	4.64
	32K	1K	2K	12-ch. 10-bit	—	UART, SIO, I2C	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21216JFP#U1-ND NEW!	6.34	5.08	4.28
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21216KFP#U1-ND NEW!	6.86	5.49	4.64
	48K	1K	2.5K	12-ch. 10-bit	—	UART, SIO, I2C	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21217KFP#U1-ND NEW!	7.36	5.89	4.97
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21218JFP#U1-ND NEW!	7.36	5.89	4.97
	64K	1K	3K	12-ch. 10-bit	—	UART, SIO, I2C	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21218KFP#U1-ND NEW!	7.86	6.29	5.31
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21222AJFP#U0-ND NEW!	7.52	6.02	5.08
	96K	—	5K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F2122AKFP#U0-ND NEW!	8.00	6.40	5.40
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F2122CJFP#U0-ND NEW!	8.00	6.40	5.40
	128K	—	6K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F2122CKFP#U0-ND NEW!	8.48	6.79	5.73
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21226DFP#U0-ND NEW!	6.14	4.92	4.15
	32K	—	2K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21226JFP#U1-ND NEW!	6.34	5.08	4.28
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21226KFP#U1-ND NEW!	6.86	5.49	4.64
	48K	—	2.5K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21227DFP#U0-ND NEW!	6.40	5.12	4.32
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21227JFP#U1-ND NEW!	6.86	5.49	4.64
	64K	—	3K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21227KFP#U1-ND NEW!	7.36	5.89	4.97
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21228DFP#U0-ND NEW!	6.66	5.33	4.50
	96K	1K	5K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21228JFP#U1-ND NEW!	7.36	5.89	4.97
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21228KFP#U1-ND NEW!	7.86	6.29	5.31
	128K	1K	6K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F2123AJFP#U0-ND NEW!	8.48	6.79	5.73
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F2123AKFP#U0-ND NEW!	8.96	7.17	6.05
	32K	1K	2K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F2123CJFP#U0-ND NEW!	8.96	7.17	6.05
									16MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F2123CKFP#U0-ND NEW!	9.46	7.57	6.39
	48K	1K	2.5K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21236DFP#U0-ND NEW!	6.54	5.24	4.42
									16MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21236JFP#U1-ND NEW!	7.36	5.89	4.97
	64K	1K	3K	12-ch. 10-bit	—	UART, SIO, I2C, CAN	3/2/—	41	20MHz/3.0 - 5.5V	-40°C - 85°C	48-LQFP	R5F21236KFP#U1-ND NEW!	7.86	6.29	5.31
									16MHz/3.0 - 5.5V	-40°C - 125°C	48-LQFP	R5F21237DFP#U0-ND NEW!	6.80	5.44	4.59
	16K	—	1K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21237JFP#U1-ND NEW!	7.86	6.29	5.31
									-20°C - 85°C	52-LQFP	R5F21238DFP#U0-ND NEW!	7.06	5.65	4.77	
	32K	—	2K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21238JFP#U1-ND NEW!	8.38	6.71	5.66
									-20°C - 85°C	52-LQFP	R5F21244SDFP#U0-ND NEW!	4.82	3.86	3.26	
	48K	—	2.5K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21244SNFP#U0-ND NEW!	5.13	4.11	3.20
									-20°C - 85°C	52-LQFP	R5F21246SDFP#U0-ND NEW!	5.10	4.08	3.45	
	64K	—	3K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21246SNFP#U0-ND NEW!	4.82	3.86	3.26
									-20°C - 85°C	52-LQFP	R5F21247SDFP#U0-ND NEW!	5.60	4.48	3.78	
	16K	2K	1K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21248SDFP#U0-ND NEW!	5.80	4.64	3.92
									-20°C - 85°C	52-LQFP	R5F21248SNFP#U0-ND NEW!	5.60	4.48	3.78	
	32K	2K	2K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21254SDFP#U0-ND NEW!	5.22	4.18	3.53
									-20°C - 85°C	52-LQFP	R5F21254SNFP#U0-ND NEW!	4.96	3.97	3.35	
	48K	2K	2.5K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21256SDFP#U0-ND NEW!	5.46	4.37	3.69
									-20°C - 85°C	52-LQFP	R5F21256SNFP#U0-ND NEW!	5.20	4.16	3.51	
	64K	2K	3K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/2/—	44	20MHz/2.2 - 5.5V	-40°C - 85°C	52-LQFP	R5F21257SDFP#U0-ND NEW!	6.00	4.80	4.05
									-20°C - 85°C	52-LQFP	R5F21257SNFP#U0-ND NEW!	5.74	4.60	3.88	
	8K	—	500	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21258SDFP#U0-ND NEW!	6.26	5.01	4.23
-20°C - 85°C									32-LQFP	R5F21258SNFP#U0-ND NEW!	6.00	4.80	4.05		
16K	—	1K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21262SDFP#U0-ND NEW!	4.79	3.84	2.99	
								-20°C - 85°C	32-LQFP	R5F21262SNFP#U0-ND NEW!	4.50	3.60	2.80		
24K	—	1.5K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21264SDFP#U0-ND NEW!	5.11	4.09	3.18	
								-20°C - 85°C	32-LQFP	R5F21264SNFP#U0-ND NEW!	4.79	3.84	2.99		
32K	—	1.5K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21264YFP#U0-ND NEW!	5.04	4.04	3.41	
								-20°C - 85°C	32-LQFP	R5F21265SDFP#U0-ND NEW!	5.40	4.32	3.36		
48K	—	2K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21265SNFP#U0-ND NEW!	5.11	4.09	3.18	
								-20°C - 85°C	32-LQFP	R5F21266SDFP#U0-ND NEW!	5.06	4.05	3.42		
8K	2K	500	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21266SNFP#U0-ND NEW!	5.40	4.32	3.36	
								-20°C - 85°C	32-LQFP	R5F21272SDFP#U0-ND NEW!	5.24	4.20	3.27		
16K	2K	1K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21272SNFP#U0-ND NEW!	4.95	3.96	3.08	
								-20°C - 85°C	32-LQFP	R5F21274SDFP#U0-ND NEW!	5.56	4.45	3.46		
24K	—	1.5K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21274SNFP#U0-ND NEW!	5.24	4.20	3.27	
								-20°C - 85°C	32-LQFP	R5F21274YFP#U0-ND NEW!	5.60	4.48	3.78		
32K	2K	1.5K	12-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	28	20MHz/2.2 - 5.5V	-40°C - 85°C	32-LQFP	R5F21275SDFP#U0-ND NEW!	5.20	4.16	3.51	
								-20°C - 85°C	32-LQFP	R5F21275SNFP#U0-ND NEW!	5.56	4.45	3.46		
8K	—	500	4-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	16	20MHz/2.2 - 5.5V	-40°C - 85°C	20-LSSOP	R5F21276SDFP#U0-ND NEW!	5.46	4.37	3.69	
								-20°C - 85°C	20-LSSOP	R5F21276SNFP#U0-ND NEW!	5.20	4.16	3.51		
16K	1K	1K	4-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	16	20MHz/2.2 - 5.5V	-40°C - 85°C	20-LSSOP	R5F21276YFP#U0-ND NEW!	5.80	4.64	3.92	
								-20°C - 85°C	20-LSSOP	R5F21282SDSP#U0-ND NEW!	4.21	3.37	2.62		
Flash	60K	—	2K	8-ch. 10-bit	—	2 USART, 1 SSU*, 1 I2C	3/1/—	16	8MHz/1.8 - 5.5V	-20°C - 85°C	64-LQFP	M38C136BFP#U0-ND NEW!	6.80	5.44	4.59

RoHS Compliant *SSU = SPI*

740 Family

Memory Type	ROM Bytes	Data Flash Bytes	RAM Bytes	A/D	D/A	Serial Communication	Timers 8/16/32	GPIO	Operating Frequency/Supply Voltage	Temperature	Package	Digi-Key Part No.	1	Price Each 25	100
Flash	36K	—	1K	8-ch. 10-bit	—	2 USART	2/2/—	29	8MHz/2.2 - 5.5V	-20°C - 85°C	36-SSOP	M37542F8FP#U0-ND NEW!	8.64	6.92	5.84
	16K	—	512	8-ch. 8-bit	—	CAN, SSI, UART	3/2/—	35	10MHz/4.0 - 5.5V	-20°C - 85°C	44-QFP	M37630E4FP#U3-ND			

Memory Type	ROM Bytes	Data Flash Bytes	RAM Bytes	A/D	D/A	Serial Communication	Timers 8/16/32	GPIO	Operating Frequency/Supply Voltage	Temperature	Package	Digi-Key Part No.	1	25	100	
QzROM	16K	—	625	8-ch. 10-bit	—	2 USART	4/6/—	51	12.5MHz/1.8 - 5.5V	-20°C - 85°C	64-LQFP 64-LQFP	M38D24G4FP#UO-ND M38D24G4HP#UO-ND	4.79 3.84	3.84 2.99	2.99 2.99	
	24K	—	625	8-ch. 10-bit	—	2 USART	4/2/—	51	12.5MHz/1.8 - 5.5V	-20°C - 85°C	64-LQFP 64-LQFP	M38D24G6FP#UO-ND M38D24G6HP#UO-ND	5.11 5.11	4.09 3.18	3.18 3.18	
	32K	—	1.5K	8-ch. 10-bit	—	2 USART	4/2/—	59	12.5MHz/1.8 - 5.5V	-20°C - 85°C	80-QFP 80-LQFP	M38D58G8FP#UO-ND M38D58G8HP#UO-ND	5.34 5.34	4.28 3.61	3.61 3.61	
	48K	—	2K	8-ch. 10-bit	—	2 USART	4/2/—	59	12.5MHz/1.8 - 5.5V	-20°C - 85°C	80-QFP 80-LQFP	M38D58GCFP#UO-ND M38D58GCHP#UO-ND	5.60 5.60	4.48 3.78	3.78 3.78	
	60K	—	2K	8-ch. 10-bit	—	2 USART	4/2/—	59	12.5MHz/1.8 - 5.5V	-20°C - 85°C	80-QFP 80-LQFP	M38D59GFFP#UO-ND M38D59GFHP#UO-ND	5.84 5.84	4.68 3.95	3.95 3.95	
Flash	32K	—	2K	8-ch. 10-bit	—	1 USART	3/—/—	44	8MHz/3.0 - 5.2V	-20°C - 85°C	64-LQFP	M38K298LHP#UO-ND	9.80	8.81	7.81	
QzROM	60K	—	2K	16-ch. 10-bit	2-ch. 8-bit	3 USART	4/1/—	56	16MHz/2.7 - 5.5V	-20°C - 85°C	64-QFP	M38039FFHP#UO-ND	9.86	7.89	6.66	
Flash	60K	—	2048	16-ch. 10-bit	2-ch. 8-bit	SIO, UART	4/1/—	56	16MHz/2.7 - 5.5V	-20°C - 85°C	64-LQFP	M38039FFLHP#UO-ND	NEW!	9.60	7.68	6.48
QzROM	60K	—	2048	16 ch. 10-bit	2-ch. 8-bit	SIO, UART	4/1/—	56	16MHz/1.8 - 5.5V	-20°C - 85°C	64-LQFP	M38039G4HKP#UO-ND	NEW!	4.66	4.14	3.11
	48K	—	2K	16-ch. 10-bit	2-ch. 8-bit	3 UART	4/1/—	56	16.8MHz/2.0 - 5.5V	-20°C - 85°C	64-LQFP	M38039GCHHP#UO-ND	5.40	4.32	3.36	
	16K	—	2K	16-ch. 10-bit	2-ch. 8-bit	3 USART	4/1/—	56	16.8MHz/2.0 - 5.5V	-20°C - 85°C	64-LQFP 64-SDIP	M38039G4HP#UO-ND M38039G4HSP#UO-ND	3.96 5.51	3.17 4.41	2.47 3.43	
	24K	—	2K	16-ch. 10-bit	2-ch. 8-bit	3 USART	4/1/—	56	16.8MHz/2.0 - 5.5V	-20°C - 85°C	64-LQFP 64-LQFP	M38039G6HHP#UO-ND M38039G6HKP#UO-ND	4.21 4.32	3.37 3.46	2.62 2.69	
	32K	—	2K	16-ch. 10-bit	2-ch. 8-bit	3 USART	4/1/—	56	16.8MHz/2.0 - 5.5V	-20°C - 85°C	64-LQFP 64-LQFP	M38039G6HHP#UO-ND M38039G6HKP#UO-ND	4.48 4.59	3.59 3.68	2.79 2.86	
	48K	—	2K	16-ch. 10-bit	2-ch. 8-bit	3 USART	4/1/—	56	16.8MHz/2.0 - 5.5V	-20°C - 85°C	64-LQFP 64-SDIP	M38039G6HHP#UO-ND M38039G6HSP#UO-ND	5.38 5.38	4.31 3.64	3.64 3.64	
	16K	—	512	9-ch. 10-bit	2-ch. 8-bit	2 UART	4/1/— 4/—/—	34 34	12.5MHz/1.8 - 5.5V 12.5MHz/1.8 - 5.5V	-20°C - 85°C -20°C - 85°C	42-SSOP 42-DIP	M38503G4AFP#U1-ND M38503G4ASP#U1-ND	3.89 5.11	3.12 4.09	2.43 3.18	
	Flash	32K	—	1K	9-ch. 10-bit	—	2 USART	4/—/—	34	12.5MHz/2.7 - 5.5V	-20°C - 85°C	42-SSOP	M38507F8AFP#U1-ND	8.80	7.04	5.94
	QzROM	48K	—	1.5K	—	—	2 USART	4/1/—	34	12.5MHz/2.7 - 5.5V	-20°C - 85°C	42-SSOP 42-SDIP	M38588GCFP#UO-ND M38588GCFP#UO-ND	5.34 6.10	4.28 4.88	3.61 4.12
	Flash	60K	—	2K	8-ch. 10-bit	2-ch. 8-bit	2 USART	4/—/—	72	10MHz/2.7 - 5.5V	-20°C - 85°C	80-QFP 80-LQFP	M38869FFAGP#UO-ND M38869FFAFP#UO-ND	9.08 14.48	8.16 13.51	7.24 12.55
ROMless	—	—	148K	—	—	3 UART, 1 USART, 1 I2C	—/4/4	132	266MHz/1.2V	-20°C - 70°C	449-BGA	R8A77220AC266BGV-ND	35.36	33.00	30.85	

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SuperH™ Family

SuperH is an embedded RISC developed for high performance, miniaturization and performance per power consumption (MIPS/W). We are developing CPU cores for a wide range of applications and functions and have many products. Our product lines include the series with SH-2 as the CPU core with on-chip large capacity flash memory and peripheral functions such as timer, serial and AD converter, and the series with SH-3 and SH-4 as the CPU core which enable high-speed data processing and come equipped with cache and MMU. Additionally, there is lineup of series with SH2-DSP and SH3-DSP as the CPU core, which have full DSP functions and an emphasis on multimedia processing and communications processing. Currently available series (products) also have lots of features such as low power mode, contributing to low power consumption and miniaturization for application hardware. Various versatile operating systems and development tools have been improved and, crucially, more efficient development can be achieved.

SH Series

Memory Type	ROM Bytes	Data Flash Bytes	RAM Bytes	A/D	D/A	Serial Communication	Timers 8/16/32	GPIO	Operating Frequency/Supply Voltage	Temperature	Package	Digi-Key Part No.	1	25	100				
ROMless	—	—	4K	—	—	3 USART, IrDA	—/2/—	78	100MHz/1.4 - 1.6V	-20°C - 75°C	176-LFBGA	D17618RBG100V-ND	14.81	13.34	11.83				
			8K	8-ch. 10-bit	—	4 USART, IrDA, Smart Card, 1 I2C	—/5/—	106	50MHz/3.0 - 3.6V	-20°C - 75°C	114-LQFP	HD6417145F50V-ND	11.02	9.90	8.78				
			—	8-ch. 10-bit	2-ch. 10-bit	UART	—/1/3	96	100MHz/3.3V 137MHz/3.3V	-20°C - 75°C	208-QFP	D6417709SF100BV-ND D6417709SF133BV-ND	21.57 23.72	20.14 22.14	18.70 20.56				
			16K	—	—	2 UART, 2 SSU,* 2 Ethernet	—/—/3	24	200MHz/1.5V	-20°C - 75°C	256-QFP	HD6417710FV-ND	23.93	22.33	20.74				
Flash	256K	—	12K	16-ch. 10-bit	—	3 USART, IrDA, 1 CAN	69	50MHz/4.5 - 5.5V	-20°C - 75°C	100-QFP	HD64F7047F50V-ND	19.04	17.77	16.50					
							65	50MHz/4.5 - 5.5V	-20°C - 75°C	100-QFP	DS70830A80FTV-ND	NEW!	10.87	9.77	8.66				
ROMless	—	—	16K	8 ch. 10-bit	—	SCI, SSU, I2C	100	80MHz/4.5 - 5.5V	-20°C - 85°C	144-LQFP	DS70850AD80FPV-ND	NEW!	13.68	12.77	11.86				
							—	—	—	4 USART, IrDA	—/2/—	78	125MHz/1.71 - 1.89V	-20°C - 70°C	176-LFBGA	DS76190B125BVG-ND DS76190N125BVG-ND	18.09 19.01	16.89 17.74	15.68 16.48

SH-2 Series

Memory Type	ROM Bytes	Data Flash Bytes	RAM Bytes	A/D	D/A	Serial Communication	Timers 8/16/32	GPIO	Operating Frequency/Supply Voltage	Temperature	Package	Digi-Key Part No.	1	25	100																
ROMless	—	—	—	8-ch. 10-bit	—	2 USART, IrDA	—/3/—	43	28.7MHz/4.5 - 5.5V	-20°C - 75°C	112-QFP 112-QFP	HD6417014F28V-ND HD6417014RF28V-ND	12.59 12.59	11.75 11.75	10.91 10.91																
																4K	8-ch. 10-bit	—	2 USART, IrDA	—/5/—	82	16.7MHz/3.0 - 3.6V 28.7MHz/4.5 - 5.5V	-20°C - 75°C	112-QFP 112-QFP	HD6417040AVCF16V-ND HD6417040ACF28V-ND	18.66 21.75	17.42 20.30	16.18 18.85			
																													4K	8-ch. 10-bit	—
																8K	8-ch. 10-bit	—	4 USART, IrDA, Smart Card, 1 I2C	—/5/—	82	50MHz/3.0 - 3.6V	-20°C - 75°C -40°C - 85°C	112-QFP 112-QFP	HD6417144F50V-ND HD6417144FW50V-ND	10.40 11.02	9.35 9.90	8.29 8.78			
																													8K	8-ch. 10-bit	—
																4K	—	—	3 USART, IrDA	—/—/—	78	100MHz/3.0 - 3.6V	-20°C - 75°C -20°C - 75°C -40°C - 85°C	176-LFBGA 176-LFBGA 176-LFBGA	D17606BG100V-ND D17606BGN100V-ND D17606BGW100V-ND	14.85 14.85 14.66	13.34 13.34 13.68	11.83 11.83 12.71			
																													8K	—	—
																4K	—	—	3 USART IrDA	—/2/—	78	100MHz/1.4 - 1.6V	-20°C - 75°C -20°C - 75°C -40°C - 85°C -40°C - 85°C	176-LFBGA 176-LFBGA 176-LFBGA 176-LFBGA	D17618ABG100V-ND D17618ABGN100V-ND D17618ABGW100V-ND D17618RBGW100V-ND	23.85 41.10 45.00 14.66	22.26 38.36 42.00 13.68	20.67 35.62 39.00 12.71			
																													4K	—	—
																Flash	128K	—	4K	8-ch. 10-bit	—	2 USART, IrDA	WDT, MTU, CMT	82	28.7MHz/4.5 - 5.5V	-20°C - 75°C	112-QFP	HD64F7017F28V-ND			
																													Flash	256K	—

• RoHS Compliant *SSU = SPI®

(Continued)

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