

H8 Family

H8 Value Series

Renesas Value Series Microcontrollers are low-cost embedded solutions with a 16-bit high performance CPU with up to 128KB of flash memory and high integration of on-chip peripherals.

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.	Price Each		
													1	25	100
ROMless	External ROM	—	4K	8-ch. 10-bit	2-ch. 8-bit	2 USART, IrDA, Smart Card	4/3/—	47	25MHz/4.5 - 5.5V 25MHz/3 - 3.6V	-20°C - 75°C -20°C - 75°C	100-QFP	HD6413008FBL25NF-ND	5.10	4.08	3.45
												HD6413008FBL25V-ND	5.10	4.08	3.45
Flash	128K	—	8K	8-ch. 10-bit	2-ch. 8-bit	3 USART, Smart Card	2/6/—	95	25MHz/3 - 3.6V	-20°C - 75°C	128-QFP	DF2327BVFB25V-ND	10.00	8.99	7.97
Flash	128K	—	4K	8-ch. 10-bit	2-ch. 8-bit	2 USART, IrDA, Smart Card	4/3/—	79	25MHz/3 - 3.6V	-20°C - 75°C	100-QFP	DF3024FBL25V-ND	7.98	6.39	5.39
Flash	128K	—	4K	8-ch. 10-bit	2-ch. 8-bit	2 USART, IrDA, Smart Card	4/3/—	79	25MHz/4.5 - 5.5V	-20°C - 75°C	100-QFP	DF3062BF25V-ND	9.55	8.58	7.61
												DF3062BFL25V-ND	7.98	6.39	5.39
												HD64F3062BFL25L-ND	7.98	6.39	5.39

H8 Tiny Series

The H8/Tiny series of MCUs provide 16-bit performance and high peripheral integration ideal for many 8-bit applications.

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.	Price Each		
													1	25	100
Flash	16K	—	2K	4-ch. 10-bit	—	2 USART	1/1/—	34	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP 48-QFN 48-LQFP 48-LQFP 64-LQFP	DF36012FPV-ND	8.38	6.71	5.66
												DF36012FTV-ND	8.38	6.71	5.66
												DF36012FXV-ND	8.38	6.71	5.66
												DF36012FVY-ND	8.38	6.71	5.66
												DF36012GFPV-ND	8.64	6.92	5.84
												DF36012GFTV-ND	8.64	6.92	5.84
												DF36012GFTV-ND	8.64	6.92	5.84
												DF36012GFVY-ND	8.64	6.92	5.84
												DF36012GFVY-ND	8.64	6.92	5.84
												DF36014FPV-ND	8.64	6.92	5.84
												DF36014GFPV-ND	8.88	7.11	6.00
												DF36014GFVY-ND	8.88	7.11	6.00
Flash	32K	—	2K	4-ch. 10-bit	—	2 USART	1/1/—	34	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP 48-QFN 48-LQFP 48-LQFP 64-LQFP	DF36014FPV-ND	8.64	6.92	5.84
												DF36014GFPV-ND	8.88	7.11	6.00
												DF36014GFVY-ND	8.88	7.11	6.00
												DF36014FPJE-ND	8.86	7.98	7.08
												DF36014FPV-ND	9.82	7.66	6.63
												DF36014FPVY-ND	8.60	7.73	6.85
												DF36014GFPV-ND	8.88	7.11	6.00
												DF36014GFTV-ND	8.88	7.11	6.00
												DF36014GFVY-ND	8.88	7.11	6.00
												DF36014FTV-ND	8.64	6.92	5.84
												DF36014FVY-ND	8.64	6.92	5.84
												DF36014FXV-ND	8.64	6.92	5.84
Flash	16K	—	2K	4-ch. 10-bit	—	3 USART	1/1/—	34	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP 48-QFN 48-LQFP 48-LQFP 64-LQFP	DF36022FPV-ND	8.64	6.92	5.84
												DF36022FTV-ND	8.64	6.92	5.84
												DF36022FXV-ND	8.64	6.92	5.84
												DF36022FVY-ND	8.64	6.92	5.84
												DF36022GFPV-ND	8.88	7.11	6.00
												DF36022GFTV-ND	8.88	7.11	6.00
												DF36022GFTV-ND	8.88	7.11	6.00
												DF36022GFVY-ND	8.88	7.11	6.00
												DF36024FPV-ND	8.88	7.11	6.00
												DF36024FTV-ND	8.88	7.11	6.00
												DF36024FVY-ND	8.88	7.11	6.00
												DF36024FXV-ND	8.88	7.11	6.00
Flash	32K	—	2K	4-ch. 10-bit	—	3 USART	1/1/—	34	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP 48-QFN 48-LQFP 48-LQFP 64-LQFP	DF36024FPV-ND	9.14	7.32	6.17
												DF36024GFTV-ND	9.14	7.32	6.17
												DF36024GFVY-ND	9.14	7.32	6.17
												DF36024GFVY-ND	9.14	7.32	6.17
												DF36034FZV-ND	9.34	8.39	7.44
												DF36034GFZV-ND	9.55	8.58	7.61
												DF36034GHV-ND	9.55	8.58	7.61
												DF36034HV-ND	9.34	8.39	7.44
												DF36037FZV-ND	9.75	8.76	7.77
												DF36037GFZV-ND	9.97	8.96	7.95
												DF36037GHV-ND	9.97	8.96	7.95
												DF36037HV-ND	9.75	8.76	7.77
Flash	96K	—	4K	8-ch. 10-bit	—	3 USART, 1 I ² C	2/3/—	67	20MHz/3 - 5.5V	-20°C - 75°C	80-QFP 80-QFP 80-QFP	DF36049GHV-ND	9.73	8.76	7.77
												DF36049HV-ND	9.53	8.58	7.61
												HD64F36049H-ND	9.53	8.58	7.61
												DF36054FZV-ND	9.55	8.58	7.61
												DF36054GFZV-ND	9.75	8.76	7.77
												DF36054GHV-ND	9.75	8.76	7.77
												DF36054HV-ND	9.55	8.58	7.61
												DF36057FZV-ND	9.97	8.96	7.95
												DF36057GFZV-ND	10.17	9.14	8.10
												DF36057GHV-ND	10.17	9.14	8.10
												DF36057HV-ND	9.97	8.96	7.95
												Flash	32K	—	2K
DF36064GHV-ND	6.34	5.08	4.28												
DF36074GFZV-ND	5.66	5.09	4.51												
DF36074GHV-ND	5.95	5.34	4.74												
DF36074GHVW-ND	7.92	6.34	5.35												
DF36077GFZV-ND	7.62	6.10	5.15												
DF36077GHV-ND	7.62	6.10	5.15												
DF36079GFZV-ND	9.68	7.75	6.54												
DF36087FPV-ND	8.66	7.80	6.92												
DF36087HV-ND	8.68	7.80	6.92												
DF36094GFZV-ND	9.66	7.73	6.53												
Flash	128K	—	5K	16-ch. 10-bit	—	3 USART, 1 I ² C	2/3/—	87	20MHz/3 - 5.5V	-20°C - 75°C	100-QFP 100-QFP 100-LQFP				
												DF36109GV-ND	10.82	9.72	8.62
												DF36109HV-ND	10.82	9.72	8.62
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
												DF36109HV-ND	10.60	9.53	8.45
Flash	32K	—	2K	8-ch. 10-bit	—	I ² C, 2 USART	2/1/—	29	16MHz/4.0 - 5.5V	-20°C - 75°C	64-LQFP	HD64F3664FPV-ND	9.50	7.60	6.42
												DF36109PV-ND	5.42	4.34	3.38
												DF36109GV-ND	5.42	4.34	3.38
												DF36109HV-ND	5.42	4.34	3.38
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
												DF36109HV-ND	5.06	4.05	3.42
Flash	32K	—	4K	8-ch. 10-bit	—	2 USART, 1 I ² C	2/2/—	53	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP 64-QFP 64-QFP	DF36109PV-ND	9.90	7.92	6.69
												DF36109GV-ND	8.46	7.62	6.76
												DF36109HV-ND	8.48	7.62	6.76
												DF36109HV-ND	9.90	7.92	6.69
												DF36109HV-ND	8.46	7.62	6.76
												DF36109HV-ND	8.48	7.62	6.76
												DF36109HV-ND	9.90	7.92	6.69
												DF36109HV-ND	8.46	7.62	6.76
												DF36109HV-ND	8.48	7.62	6.76
												DF36109HV-ND	9.90	7.92	6.69
												DF36109HV-ND	8.46	7.62	6.76
												DF36109HV-ND	8.48	7.62	6.76

• RoHS Compliant *SSU = SPI

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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.	Price Each		
													1	25	100
Flash	56K	500.0	4K	8-ch. 10-bit	—	2 USART, 1 I ² C	2/2/—	51	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP	DN3687GFPV-ND◆	9.97	8.96	7.95
Flash	56K	—	4K	8-ch. 10-bit	—	2 USART, 1 I ² C	2/2/—	53	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP	HD64F3687FPV-ND◆	8.66	7.80	6.92
											64-LQFP	HD64F3687GFPV-ND◆	8.88	8.00	7.09
											64-QFP	HD64F3687GHV-ND◆	8.90	8.00	7.09
											64-QFP	HD64F3687HV-ND◆	8.66	7.80	6.92
Flash	8K	—	1.5K	4-ch. 10-bit	—	1 USART	1/1/—	22	12MHz/3 - 5.5V	-20°C - 75°C	32-QFP	DF36902GFHV-ND◆	5.42	4.34	3.38
Flash	8K	—	1.5K	4-ch. 10-bit	—	1 USART, 1 I ² C	2/1/—	22	12MHz/3 - 5.5V	-20°C - 75°C	32-SOP	DF36902GTPAFV-ND◆	5.42	4.34	3.38
											32-LQFP	DF36912GFHV-ND◆	5.06	4.05	3.42
Flash	32K	500.0	2K	8-ch. 10-bit	—	1 USART, 1 I ² C	2/1/—	35	20MHz/3 - 5.5V	-20°C - 75°C	32-SOP	DF36912GTPAFV-ND◆	5.06	4.05	3.42
											64-LQFP	DN3694GFPV-ND◆	8.93	8.03	7.12
Flash	32K	—	2K	8-ch. 10-bit	—	1 USART, 1 I ² C	2/1/—	37	20MHz/3 - 5.5V	-20°C - 75°C	64-LQFP	HD64F3694FPV-ND◆	9.38	7.51	6.34
											64-LQFP	HD64F3694FPV-ND◆	9.38	7.51	6.34
											48-QFN	HD64F3694FTV-ND◆	9.38	7.51	6.34
											48-LQFP	HD64F3694FXV-ND◆	9.38	7.51	6.34
											48-LQFP	HD64F3694FYV-ND◆	9.38	7.51	6.34
											64-LQFP	HD64F3694GFPV-ND◆	9.66	7.73	6.53
											48-QFN	HD64F3694GFTV-ND◆	9.66	7.73	6.53
											48-LQFP	HD64F3694GFV-ND◆	9.66	7.73	6.53
											48-QFP	HD64F3694GFYV-ND◆	9.66	7.73	6.53
											48-LQFP	HD64F3694GFYV-ND◆	9.66	7.73	6.53
											64-LQFP	HD64F3694GHV-ND◆	9.66	7.73	6.53
											64-QFP	HD64F3694GHV-ND◆	9.66	7.73	6.53
											64-QFP	HD64F3694HVV-ND◆	9.38	7.51	6.34

H8 Super Low Power

H8/300L and H8/300H Super Low Power series of MCUs are designed for optimum power consumption and fit in applications where battery life is critical. A built-in LCD controller is included on large packages (64-100 pins).

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.	Price Each		
													1	25	100
Flash	16K	—	1K	4-ch. 10-bit	—	1 USART	2/2/0	50	4MHz/2.2 - 3.6V	-20°C - 75°C	64-LQFP	DF38002FP4V-ND◆	8.27	7.43	6.59
											64-QFP	DF38002H10VV-ND◆	9.86	7.89	6.66
											64-QFP	DF38002H10VV-ND◆	9.08	8.16	7.24
											64-QFP	DF38002H10V-ND◆	9.86	7.89	6.66
Flash	32K	—	1K	4-ch. 10-bit	—	1 USART	2/2/0	50	4MHz/2.2 - 3.6V	-20°C - 75°C	64-LQFP	DF38004FP4V-ND◆	8.68	7.80	6.92
											64-QFP	DF38004H4V-ND◆	8.68	7.80	6.92
Flash	32K	—	1K	4-ch. 10-bit	—	1 USART	2/2/0	50	10MHz/2.7 - 3.6V	-20°C - 75°C	64-LQFP	DF38004FP10V-ND◆	8.66	7.80	6.92
											64-LQFP	DF38004H10V-ND◆	8.66	7.80	6.92
Flash	32K	—	1K	4-ch. 10-bit	—	1 USART	2/2/0	50	10MHz/2.7 - 3.6V	-40°C - 85°C	64-LQFP	DF38004FP10VV-ND◆	9.55	8.58	7.61
											64-QFP	DF38004H10VV-ND◆	9.55	8.58	7.61
Flash	32K	—	1K	8-ch. 10-bit	—	1 USART	4/2/0	66	10MHz/2.7 - 3.6V	-40°C - 85°C	80-QFP	HD64F38024DV-ND◆	11.44	10.28	9.12
											80-QFP	HD64F38024H-ND◆	12.46	9.97	8.42
											80-QFP	HD64F38024RDV-ND◆	10.54	9.47	8.40
											80-QFP	HD64F38024RHV-ND◆	9.57	8.60	7.63
											80-TQFP	HD64F38024RW-ND◆	11.46	9.17	7.74
											80-TQFP	HD64F38024RWV-ND◆	10.54	9.47	8.40
											80-TQFP	HD64F38024RWV-ND◆	9.57	8.60	7.63
											80-TQFP	HD64F38024WV-ND◆	11.44	10.28	9.12
Flash	32K	—	1K	8-ch. 10-bit	—	1 USART	3/1/—	66	10MHz/2.7 - 3.6V	-20°C - 75°C	80-QFP	HD64F38024RFV-ND◆	9.57	8.60	7.63
											85-TFLGA	HD64F38024RFLV-ND◆	9.57	8.60	7.63
											80-QFP	DF38076RH4V-ND◆	11.33	10.20	9.05
											85-TFLGA	DF38076RLP4V-ND◆	12.33	11.10	9.85
Flash	52K	—	2K	8-ch. 10-bit	—	3 USART, IrDA, 1 I ² C	2/4/0	63	4.2MHz/1.8 - 3.6V	-20°C - 75°C	80-TQFP	DF38076RW4V-ND◆	11.36	10.20	9.05
											80-QFP	DF38076RH10V-ND◆	11.57	10.40	9.22
											80-QFP	DF38076RH10VV-ND◆	12.74	11.45	10.15
											85-TFLGA	DF38076RLP10V-ND◆	12.58	11.30	10.02
											85-TFLGA	DF38076RLP10VV-ND◆	13.84	12.44	11.03
											80-TQFP	DF38076RW10V-ND◆	11.57	10.40	9.22
											80-TQFP	DF38076RW10VV-ND◆	12.74	11.45	10.15
											80-QFP	DF38086RH4V-ND◆	12.66	11.40	10.11
Flash	52K	—	2K	2-ch. 14-bit(ΔΣ) 3-ch. 10-bit (SAR)	—	3 USART, IrDA, 1 I ² C	2/4/0	63	4.2MHz/1.8 - 3.6V	-20°C - 75°C	85-TFLGA	DF38086RLP4V-ND◆	13.66	12.30	10.91
											80-TQFP	DF38086RW4V-ND◆	12.69	11.40	10.11
											80-QFP	DF38086RH10V-ND◆	12.91	11.60	10.29
											80-QFP	DF38086RH10VV-ND◆	14.21	12.77	11.32
Flash	52K	—	2K	2-ch. 14-bit(ΔΣ) 3-ch. 10-bit (SAR)	—	3 USART, IrDA, 1 I ² C	2/4/0	63	10MHz/2.7 - 3.6V	-20°C - 75°C	85-TFLGA	DF38086RLP10V-ND◆	13.91	12.50	11.08
											85-TFLGA	DF38086RLP10VV-ND◆	13.76	12.84	11.93
											80-TQFP	DF38086RW10V-ND◆	12.91	11.60	10.29
											80-TQFP	DF38086RW10VV-ND◆	14.21	12.77	11.32
Flash	128K	—	4K	8-ch. 10-bit	—	4 USART, IrDA, 1 I ² C	4/4/0	83	10MHz/1.8 - 3.6V	-20°C - 75°C	100-LQFP	DF38099FP10V-ND◆	14.25	12.80	11.35
Flash	16K	—	1K	4-ch. 10-bit	—	1 USART	2/2/0	49	20MHz/2.7 - 5.5V	-20°C - 75°C	64-LQFP	DF38102FPV-ND◆	8.47	7.61	6.75
											64-QFP	DF38102HV-ND◆	8.47	7.61	6.75
											64-QFP	DF38102HVV-ND◆	9.30	8.36	7.41
Flash	32K	—	1K	4-ch. 10-bit	—	1 USART	2/2/0	49	20MHz/2.7 - 5.5V	-40°C - 85°C	64-LQFP	DF38104FPV-ND◆	9.80	8.81	7.81
											64-LQFP	DF38104FV-ND◆	8.88	8.00	7.09
											64-QFP	DF38104HV-ND◆	8.88	8.00	7.09
											64-QFP	DF38104HVV-ND◆	9.80	8.81	7.81
Flash	16K	—	1K	8-ch. 10-bit	—	1 USART	4/2/0	65	20MHz/2.7 - 5.5V	-20°C - 75°C	80-TQFP	DF38122WV-ND◆	9.35	8.40	7.45
											80-QFP	DF38124HV-ND◆	9.80	8.81	7.81
Flash	32K	—	1K	8-ch. 10-bit	—	1 USART	4/2/0	65	20MHz/2.7 - 5.5V	-40°C - 85°C	80-QFP	DF38124HV-ND◆	9.80	8.81	7.81
											80-QFP	DF38124WV-ND◆	10.77	9.68	8.58
											80-TQFP	DF38124WV-ND◆	9.80	8.81	7.81
											80-TQFP	DF38124WVV-ND◆	10.77	9.68	8.58
Flash	32K	—	2K	8-ch. 10-bit	—	2 USART	4/2/0	64	16MHz/2.7 - 5.5V	-20°C - 75°C	80-QFP	DF38324HV-ND◆	10.77	9.14	8.10
											80-QFP	DF38324WV-ND◆	11.04	9.92	8.80
											80-TQFP	DF38324WV-ND◆	10.17	9.14	8.10
											80-TQFP	DF38324WVV-ND◆	11.04	9.92	8.80

◆ RoHS Compliant *SSU = SPI*

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