



Microcontrollers
M16C Family M16C Platform Series (Cont.)

| 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 |
|-------------|-----------|---------------------------|-----------|-----------------|---------------|-------------------------------------------|----------------|----------|-------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Flash | 96K | 4K | 5K | 18-ch. 10-bit | — | 3 USART, 3 I ² C | —/6/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30302FAGP#U3-ND M30302FAGP#U5-ND | 5.88 5.60 | 4.71 4.48 | 3.97 3.78 |
| Flash | 128K | 4K | 5K | 18-ch. 10-bit | — | 3 USART, 3 I ² C | —/6/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30302FCPP#U3-ND M30302FCPP#U5-ND | 6.52 6.20 | 5.22 4.96 | 4.41 4.19 |
| Flash | 128K | 4K | 5K | 18-ch. 10-bit | — | 3 USART, 3 I ² C | —/6/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30302FCGP#U3-ND M30302FCGP#U5-ND | 6.10 5.80 | 4.88 4.64 | 4.12 3.92 |
| Flash | 192K | 4K | 6K | 18-ch. 10-bit | — | 3 USART, 3 I ² C | —/6/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30302FEPF#U3-ND M30302FEPF#U5-ND | 6.94 6.60 | 5.56 5.28 | 4.69 4.46 |
| Flash | 192K | 4K | 6K | 18-ch. 10-bit | — | 3 USART, 3 I ² C | —/6/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30302FEPG#U3-ND M30302FEPG#U5-ND | 6.52 6.20 | 5.22 4.96 | 4.41 4.19 |
| ROMless | — | — | 6K | 18-ch. 10-bit | — | 3 USART, 3 I ² C | —/6/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-LQFP 100-LQFP | M30302SPF#U3-ND M30302SPG#U3-ND M30302SPG#U5-ND | 6.10 4.38 5.06 | 4.88 4.09 4.05 | 4.12 3.80 3.42 |
| Flash | 256K | — | 8K | — | — | 5 USART, 1 I ² C | —/11/— | 89 80 | 16MHz/2 - 5.5V | -20°C - 70°C | 116-LQFP 100-QFP | M306H5FGP#U0-ND M306H7FGP#U0-ND | 38.10 19.62 | 35.56 18.32 | 33.02 17.01 |
| Flash | 384K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C, 1 CAN | —/11/— | 88 | 24MHz/3 - 5.5V | -40°C - 85°C | 100-LQFP | M306NLFHGP#U3-ND | 21.00 | 19.60 | 18.20 |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C, 1 CAN | —/11/— | 88 | 24MHz/3 - 5.5V | -40°C - 85°C | 100-LQFP | M306NLFJGP#U3-ND | 23.00 | 21.47 | 19.93 |
| Flash | 384K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 7 USART, 3 I ² C, 1 CAN | —/11/— | 114 | 24MHz/3 - 5.5V | -40°C - 85°C | 128-LQFP | M306NNFHGP#U3-ND | 22.01 | 20.54 | 19.08 |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 7 USART, 3 I ² C, 1 CAN | —/11/— | 114 | 24MHz/3 - 5.5V | -40°C - 85°C | 128-LQFP | M306NNFJGP#U3-ND | 24.00 | 22.40 | 20.80 |
| Flash | 128K | — | 5K | 26-ch. 10-bit | 2-ch. 8-bit | 4 USART, 3 I ² C, 1 CAN | —/11/— | 88 | 20MHz/4.2 - 5.5V | -40°C - 85°C | 100-QFP | M306N5FCTP#U0-ND | 24.77 | 23.12 | 21.47 |
| Flash | 96K | — | 24K | — | — | 5 USART, 3 I ² C | —/5/— | 22 | 15.36MHz/3 - 3.6V | -40°C - 85°C -20°C - 85°C | 64-LQFP 64-LQFP | M306S0FAGP#U3-ND M306S0FAGP#U5-ND | 15.00 14.28 | 14.00 13.33 | 13.00 12.38 |
| Flash | 512K | — | 10K | — | 2-ch. 8-bit | 2 USART, 3 I ² C | —/8/— | 76 | 16MHz/4.75 - 5.25V | -20°C - 85°C | 100-QFP | M306V7FJPP#U0-ND | 31.04 | 28.97 | 26.90 |
| Flash | 256K | — 4K 4K | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-QFP 100-QFP | M3062LFGPP#U3C-ND M3062LFGPP#U5C-ND M3062LFGPP#U7C-ND M3062LFGPP#U9C-ND | 15.12 14.40 15.32 14.60 | 14.12 13.44 14.30 13.63 | 13.11 12.48 13.28 12.65 |
| Flash | 256K | — 4K 4K | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP 100-LQFP 100-LQFP | M3062LFGGP#U3C-ND M3062LFGGP#U5C-ND M3062LFGGP#U7C-ND M3062LFGGP#U9C-ND | 14.70 14.00 14.90 14.21 | 13.72 13.07 13.91 13.26 | 12.74 12.13 12.91 12.32 |
| Flash | 128K | — 4K 4K | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-QFP 100-QFP | M30620FCPP#U3C-ND M30620FCPP#U5C-ND M30620FCPP#U7C-ND M30620FCPP#U9C-ND | 14.10 14.95 14.30 13.62 | 13.16 13.43 13.35 12.72 | 12.22 11.91 12.39 11.81 |
| Flash | 128K | — 4K 4K | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP 100-LQFP 100-LQFP | M30620FCGP#U3C-ND M30620FCGP#U5C-ND M30620FCGP#U7C-ND M30620FCGP#U9C-ND | 14.18 14.99 13.50 14.39 | 13.23 13.50 12.60 13.43 | 12.29 11.97 11.70 12.47 |
| ROMless | — | — | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30620SPPP#U3C-ND M30620SPPP#U5C-ND | 10.54 9.57 | 9.47 8.60 | 8.40 7.63 |
| ROMless | — | — | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30620SPGP#U3C-ND M30620SPGP#U5C-ND | 9.80 8.90 | 8.81 8.00 | 7.81 7.09 |
| Flash | 128K | — 4K | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 71 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -20°C - 85°C | 80-LQFP 80-QFP 80-QFP | M30621FCGP#U3C-ND M30621FCGP#U5C-ND M30621FCGP#U9C-ND | 14.85 14.14 14.36 | 13.34 12.71 12.90 | 11.83 11.27 11.44 |
| Flash | 64K | — 4K 4K | 4K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-QFP 100-QFP | M30622F8PP#U3C-ND M30622F8PP#U5C-ND M30622F8PP#U7C-ND M30622F8PP#U9C-ND | 13.76 14.54 13.97 14.78 | 12.84 13.10 13.04 13.31 | 11.93 11.62 12.11 11.80 |
| Flash | 64K | — 4K 4K | 4K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP 100-LQFP 100-LQFP | M30622F8GP#U3C-ND M30622F8GP#U5C-ND M30622F8GP#U7C-ND M30622F8GP#U9C-ND | 13.88 13.98 13.21 14.11 | 12.50 12.50 11.90 12.71 | 11.08 11.08 10.55 11.27 |
| ROMless | — | — | 3K | 10-ch. 10-bit | 2-ch. 8-bit | 5 USART, 1 I ² C | —/11/— | 88 | 16MHz/2.7 - 5.5V | -20°C - 85°C | 100-QFP | M30622SAPP#U5-ND | 9.86 | 7.89 | 6.66 |
| ROMless | — | — | 4K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-LQFP 100-LQFP | M30622SPPF#U3C-ND M30622SPPF#U5C-ND M30622SPGP#U3C-ND M30622SPGP#U5C-ND | 9.30 8.47 8.57 9.34 | 8.36 7.61 7.70 7.48 | 7.41 6.75 6.83 6.31 |
| Flash | 64K | — | 4K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 71 | 24MHz/2.7 - 5.5V | -20°C - 85°C | 80-QFP | M30622F8GP#U5C-ND | 13.88 | 12.50 | 11.08 |
| Flash | 256K | — | 20K | 10-ch. 10-bit | 2-ch. 8-bit | 5 USART, 1 I ² C | —/11/— | 88 | 16MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30624FGAP#U3-ND M30624FGAP#U5-ND | 37.68 35.87 | 35.17 33.48 | 32.66 31.09 |
| Flash | 256K | — | 20K | 10-ch. x 10-bit | 2-ch. x 8-bit | 1 I ² C, 1 IEbus, 1 Smart Card | —/11/— | 85 | 16MHz/4.2 - 5.5V | -40°C - 85°C | 100-QFP | M30624G6MFP#D3-ND | 37.68 | 35.17 | 32.66 |
| Flash | 256K | — 4K 4K | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-QFP 100-QFP | M30624FGPP#U3C-ND M30624FGPP#U5C-ND M30624FGPP#U7C-ND M30624FGPP#U9C-ND | 16.38 15.60 16.58 15.80 | 15.29 14.56 15.47 14.75 | 14.20 13.52 14.37 13.69 |
| Flash | 256K | — 4K 4K | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP 100-LQFP 100-LQFP | M30624FGGP#U3C-ND M30624FGGP#U5C-ND M30624FGGP#U7C-ND M30624FGGP#U9C-ND | 15.74 15.00 15.95 15.20 | 14.69 14.00 14.89 14.19 | 13.64 13.00 13.82 13.17 |
| ROMless | — | — | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30624SPPF#U3C-ND M30624SPPF#U5C-ND | 12.37 11.24 | 11.12 10.10 | 9.86 8.96 |
| ROMless | — | — | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30624SPGP#U3C-ND M30624SPGP#U5C-ND | 11.07 10.07 | 9.95 9.05 | 8.82 8.02 |
| Flash | 256K | — 4K 4K | 20K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 114 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 128-LQFP 128-LQFP 128-LQFP 128-LQFP | M30625FGGP#U3C-ND M30625FGGP#U5C-ND M30625FGGP#U7C-ND M30625FGGP#U9C-ND | 16.80 17.78 16.01 17.00 | 15.68 16.01 14.94 15.87 | 14.56 14.20 13.88 14.73 |
| Flash | 384K | — 4K 4K 4K 4K | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-QFP 100-QFP 100-LQFP 100-LQFP | M30626FHPP#U3C-ND M30626FHPP#U5C-ND M30626FHPP#U7C-ND M30626FHPP#U9C-ND M30626FHGP#U3C-ND M30626FHGP#U5C-ND | 18.48 17.60 18.68 17.81 17.84 17.00 | 17.25 16.43 17.43 16.62 16.65 15.87 | 16.02 15.25 16.19 15.44 15.46 14.73 |
| Flash | 512K | — 4K | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30626FJPP#U3C-ND M30626FJPP#U5C-ND | 20.58 19.61 | 19.21 18.30 | 17.84 17.00 |
| Flash | 512K | — 4K | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30626FJGP#U3C-ND M30626FJGP#U5C-ND | 19.97 19.01 | 18.64 17.74 | 17.31 16.48 |
| ROMless | — | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 88 | 24MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-LQFP 100-LQFP | M30626SPPF#U3C-ND M30626SPPF#U5C-ND M30626SPGP#U3C-ND M30626SPGP#U5C-ND | 12.36 11.71 11.41 10.35 | 11.10 10.52 10.25 9.30 | 9.85 9.33 9.09 8.25 |

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(Continued)

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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 | 384K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 114 | 24MHz/2.7 - 5.5V | -40°C - 85°C | 128-LQFP | M30627FHPGP#U3C-ND | 18.90 | 17.64 | 16.38 |
| | | -20°C - 85°C | | | | | | | | 18.00 | | | 16.80 | 15.60 | |
| | | -20°C - 85°C | | | | | | | | 18.00 | | | 16.80 | 15.60 | |
| | | -40°C - 85°C | | | | | | | | 19.10 | | | 17.83 | 16.55 | |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C | —/11/— | 114 | 24MHz/2.7 - 5.5V | -40°C - 85°C | 128-LQFP | M30627FJPGP#U3C-ND | 21.00 | 19.60 | 18.20 |
| | | -20°C - 85°C | | | | | | | | 20.00 | | | 18.67 | 17.33 | |
| | | -40°C - 85°C | | | | | | | | 21.20 | | | 19.79 | 18.37 | |
| | | -20°C - 85°C | | | | | | | | 20.21 | | | 18.86 | 17.52 | |
| Flash | 256K | — | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 4 USART, 3 I ² C, 2 CAN | —/11/— | 88 | 24MHz/3 - 5.5V | -40°C - 85°C | 100-LQFP | M306N4FGGP#U3-ND | 19.01 | 17.74 | 16.48 |
| | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 7 USART, 3 I ² C, 2 CAN | —/11/— | 114 | 24MHz/3 - 5.5V | -40°C - 85°C | 128-LQFP | M306NMFJGP#U3-ND | 25.01 | 23.34 | 21.68 |
| | 384K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C, 2 CAN | —/11/— | 88 | 24MHz/3 - 5.5V | -40°C - 85°C | 100-LQFP | M306NKFJGP#U3-ND | 22.01 | 20.54 | 19.08 |
| | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 3 I ² C, 2 CAN | —/11/— | 88 | 24MHz/3 - 5.5V | -40°C - 85°C | 100-LQFP | M306NKFJGP#U3-ND | 24.00 | 22.40 | 20.80 |
| | 256K | — | 20K | 10-ch. 10-bit | 2-ch. 8-bit | 5 USART | —/11/— | 88 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 100-LQFP | M30803FGGP#U9C-ND | 39.66 | 37.02 | 34.38 |
| | 256K | — | 20K | 10-ch. 10-bit | 2-ch. 8-bit | 5 USART | —/11/— | 124 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 144-LQFP | M30805FGGP#U5-ND | 41.42 | 38.66 | 35.90 |

C

M16C Tiny 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. | Price Each | | |
|--------------|-----------|------------------|-----------|---------------|-----|-----------------------------|----------------|------|------------------------------------|--------------|---------|--------------------|------------|-------|---------------|
| | | | | | | | | | | | | | 1 | 25 | 100 |
| Flash | 24K | — | 1K | 12-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 39 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30260F3AGP#U3-ND | 9.38 | 7.51 | 6.34 |
| | | -40°C - 85°C | | | | | | | | 9.38 | | | 7.51 | 6.34 | |
| | | -20°C - 85°C | | | | | | | | 8.88 | | | 7.11 | 6.00 | |
| | | -20°C - 85°C | | | | | | | | 8.88 | | | 7.11 | 6.00 | |
| Flash | 48K | — | 2K | 12-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 39 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30260F6AGP#U3A-ND | 8.48 | 7.62 | 6.76 |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -40°C - 85°C | | | | | | | | 8.70 | | | 7.82 | 6.93 | |
| | | -20°C - 85°C | | | | | | | | 9.92 | | | 7.94 | 6.70 | |
| Flash | 64K | — | 2K | 12-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 39 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30260F8AGP#U3A-ND | 8.90 | 8.00 | 7.09 |
| | | -20°C - 85°C | | | | | | | | 8.48 | | | 7.62 | 6.76 | |
| | | -40°C - 85°C | | | | | | | | 9.13 | | | 8.21 | 7.28 | |
| | | -20°C - 85°C | | | | | | | | 8.70 | | | 7.82 | 6.93 | |
| Flash | 24K | 4K | 1K | 8-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 38 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30262F3GFP#U7-ND | 9.66 | 7.73 | 6.53 |
| | | -40°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -40°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -40°C - 85°C | | | | | | | | 9.92 | | | 7.94 | 6.70 | |
| Flash | 32K | — | 1K | 8-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 38 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30262F4GFP#U3-ND | 9.66 | 7.73 | 6.53 |
| | | -40°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -40°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -40°C - 85°C | | | | | | | | 9.92 | | | 7.94 | 6.70 | |
| Flash | 48K | — | 2K | 8-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 38 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30262F6GFP#U3-ND | 8.48 | 7.62 | 6.76 |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -40°C - 85°C | | | | | | | | 8.70 | | | 7.82 | 6.93 | |
| | | -40°C - 85°C | | | | | | | | 9.92 | | | 7.94 | 6.70 | |
| Flash | 64K | — | 2K | 8-ch. 10-bit | — | 3 USART, 1 I ² C | —/8/— | 38 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 48-LQFP | M30262F8GFP#U3-ND | 8.88 | 8.00 | 7.09 |
| | | -20°C - 85°C | | | | | | | | 8.90 | | | 8.00 | 7.09 | |
| | | -40°C - 85°C | | | | | | | | 9.13 | | | 8.21 | 7.28 | |
| | | -20°C - 85°C | | | | | | | | 9.13 | | | 8.21 | 7.28 | |
| Flash | 24K | — | 1K | 10-ch. 10-bit | — | 2 USART, 1 I ² C | —/8/— | 33 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 42-SSOP | M30263F3AFP#U5A-ND | 8.88 | 7.11 | 6.00 |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| Flash | 48K | — | 2K | 10-ch. 10-bit | — | 2 USART, 1 I ² C | —/8/— | 33 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 42-SSOP | M30263F6AFP#U5A-ND | 9.66 | 7.73 | 6.53 |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| | | -20°C - 85°C | | | | | | | | 9.66 | | | 7.73 | 6.53 | |
| Flash | 64K | — | 2K | 10-ch. 10-bit | — | 2 USART, 1 I ² C | —/8/— | 33 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 42-SSOP | M30263F8AFP#U5A-ND | 8.48 | 7.62 | 6.76 |
| | | -20°C - 85°C | | | | | | | | 8.70 | | | 7.82 | 6.93 | |
| | | -20°C - 85°C | | | | | | | | 8.70 | | | 7.82 | 6.93 | |
| | | -20°C - 85°C | | | | | | | | 8.70 | | | 7.82 | 6.93 | |
| Flash | 48K | — | 4K | 24-ch. 10-bit | — | 5 USART, 2 I ² C | —/9/— | 71 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 80-LQFP | M30280F6HP#D5-ND | 11.44 | 9.16 | 7.73 |
| | | -40°C - 85°C | | | | | | | | 9.95 | | | 8.96 | 7.95 | |
| | | -20°C - 85°C | | | | | | | | 9.53 | | | 8.58 | 7.61 | |
| | | -20°C - 85°C | | | | | | | | 9.55 | | | 8.58 | 7.61 | |
| | | -40°C - 85°C | | | | | | | | 10.18 | | | 9.17 | 8.13 | |
| | | -40°C - 85°C | | | | | | | | 10.20 | | | 9.17 | 8.13 | |
| | | -20°C - 85°C | | | | | | | | 9.75 | | | 8.78 | 7.79 | |
| | | -20°C - 85°C | | | | | | | | 9.77 | | | 8.78 | 7.79 | |
| | | -40°C - 85°C | | | | | | | | 10.38 | | | 9.35 | 8.29 | |
| | | -40°C - 85°C | | | | | | | | 10.40 | | | 9.35 | 8.29 | |
| | | -20°C - 85°C | | | | | | | | 11.94 | | | 9.56 | 8.06 | |
| | | -20°C - 85°C | | | | | | | | 9.95 | | | 8.96 | 7.95 | |
| Flash | 64K | — | 4K | 24-ch. 10-bit | — | 5 USART, 2 I ² C | —/9/— | 71 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 80-LQFP | M30280F8HP#U3B-ND | 10.38 | 9.35 | 8.29 |
| | | -40°C - 85°C | | | | | | | | 10.40 | | | 9.35 | 8.29 | |
| | | -20°C - 85°C | | | | | | | | 11.94 | | | 9.56 | 8.06 | |
| | | -20°C - 85°C | | | | | | | | 9.95 | | | 8.96 | 7.95 | |
| | | -40°C - 85°C | | | | | | | | 9.97 | | | 8.96 | 7.95 | |
| | | -40°C - 85°C | | | | | | | | 10.60 | | | 9.54 | 8.46 | |
| | | -40°C - 85°C | | | | | | | | 10.62 | | | 9.54 | 8.46 | |
| | | -20°C - 85°C | | | | | | | | 10.18 | | | 9.17 | 8.13 | |
| | | -40°C - 85°C | | | | | | | | 11.24 | | | 10.10 | 8.96 | |
| | | -20°C - 85°C | | | | | | | | 12.96 | | | 10.37 | 8.75 | |
| | | -20°C - 85°C | | | | | | | | 10.82 | | | 9.72 | 8.62 | |
| | | -40°C - 85°C | | | | | | | | 11.45 | | | 10.31 | 9.14 | |
| Flash | 96K | — | 8K | 24-ch. 10-bit | — | 5 USART, 2 I ² C | —/9/— | 71 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 80-LQFP | M30280FAHP#U3B-ND | 11.47 | 10.31 | 9.14 |
| | | -40°C - 85°C | | | | | | | | 11.47 | | | 10.31 | 9.14 | |
| | | -20°C - 85°C | | | | | | | | 11.47 | | | 10.31 | 9.14 | |
| | | -20°C - 85°C | | | | | | | | 11.47 | | | 10.31 | 9.14 | |
| | | -40°C - 85°C | | | | | | | | 11.47 | | | 10.31 | 9.14 | |
| | | -40°C - 85°C | | | | | | | | 11.47 | | | 10.31 | 9.14 | |
| | | -20°C - 85°C | | | | | | | | 11.04 | | | 9.92 | 8.80 | |
| | | -40°C - 85°C | | | | | | | | 12.26 | | | 11.01 | 9.77 | |
| | | -40°C - 85°C | | | | | | | | 11.67 | | | 10.49 | 9.30 | |
| | | -40°C - 85°C | | | | | | | | 12.47 | | | 11.21 | 9.94 | |
| | | -20°C - 85°C | | | | | | | | 11.89 | | | 10.68 | 9.47 | |
| | | Flash | | | | | | | | 48K | | | — | 4K | 13-ch. 10-bit |
| -40°C - 85°C | 9.55 | | 8.58 | 7.61 | | | | | | | | | | | |
| -20°C - 85°C | 9.11 | | 8.21 | 7.28 | | | | | | | | | | | |
| -20°C - 85°C | 9.13 | | 8.21 | 7.28 | | | | | | | | | | | |
| -40°C - 85°C | 9.75 | | 8.78 | 7.79 | | | | | | | | | | | |
| -40°C - 85°C | 9.77 | | 8.78 | 7.79 | | | | | | | | | | | |
| -20°C - 85°C | 9.33 | | 8.40 | 7.45 | | | | | | | | | | | |
| -20°C - 85°C | 9.35 | | 8.40 | 7.45 | | | | | | | | | | | |
| -40°C - 85°C | 9.95 | | 8.96 | 7.95 | | | | | | | | | | | |
| -40°C - 85°C | 9.97 | | 8.96 | 7.95 | | | | | | | | | | | |
| -20°C - 85°C | 11.44 | | 9.16 | 7.73 | | | | | | | | | | | |
| -20°C - 85°C | 9.53 | | 8.58 | 7.61 | | | | | | | | | | | |
| Flash | 64K | — | 4K | 13-ch. 10-bit | — | 4 USART, 2 I ² C | —/9/— | 55 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 64-LQFP | M30281F8HP#U3B-ND | 10.20 | 9.17 | 8.13 |
| | | -40°C - 85°C | | | | | | | | 10.20 | | | 9.17 | 8.13 | |
| | | -20°C - 85°C | | | | | | | | 9.77 | | | 8.78 | 7.79 | |
| | | -20°C - 85°C | | | | | | | | 9.77 | | | 8.78 | 7.79 | |
| | | -40°C - 85°C | | | | | | | | 10.20 | | | 9.17 | 8.13 | |
| | | -40°C - 85°C | | | | | | | | 9.77 | | | 8.78 | 7.79 | |
| | | -20°C - 85°C | | | | | | | | 11.81 | | | 10.61 | 9.41 | |
| | | -40°C - 85°C | | | | | | | | 10.80 | | | 9.72 | 8.62 | |
| | | -40°C - 85°C | | | | | | | | 11.04 | | | 9.92 | 8.80 | |
| | | -40°C - 85°C | | | | | | | | 10.62 | | | 9.54 | 8.46 | |
| | | -40°C - 85°C | | | | | | | | 12.86 | | | 12.00 | 11.15 | |
| | | Flash | | | | | | | | 96K | | | — | 8K | 13-ch. 10-bit |
| -40°C - 85°C | 11.81 | | 10.61 | 9.41 | | | | | | | | | | | |
| -20°C - 85°C | 12.02 | | 10.80 | 9.58 | | | | | | | | | | | |
| -20°C - 85°C | 11.47 | | 10.31 | 9.14 | | | | | | | | | | | |
| -40°C - 85°C | 12.94 | | 11.63 | 10.31 | | | | | | | | | | | |
| -20°C - 85°C | 12.29 | | 11.04 | 9.79 | | | | | | | | | | | |
| -40°C - 85°C | 13.13 | | 11.82 | 10.49 | | | | | | | | | | | |
| -20°C - 85°C | 12.48 | | 11.24 | 9.97 | | | | | | | | | | | |

• RoHS Compliant *SSU = SPI®

(Continued)

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Microcontrollers

M16C Family M16C Tiny Series (Cont.)

| 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 | 128K | — 4K 4K | 12K | 27-ch. 10-bit | — | 5 USART, 2 I ² C, 1 CAN | —/9/— | 71 | 20MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 80-LQFP 80-LQFP 80-LQFP 80-LQFP | M30290FCHP#U3A-ND◆ M30290FCHP#U5A-ND◆ M30290FCHP#U7A-ND◆ M30290FCHP#U9A-ND◆ | 14.01 | 12.59 | 11.16 |
| | | | | | | | | | | | | | 13.36 | 12.00 | 10.64 |
| | | | | | | | | | | | | | 14.23 | 12.78 | 11.34 |
| | | | | | | | | | | | | | 13.58 | 12.20 | 10.82 |
| Flash | 96K | — 4K 4K | 8K | 16-ch. 10-bit | — | 4 USART, 2 I ² C, 1 CAN | —/9/— | 55 | 20MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 64-LQFP 64-LQFP 64-LQFP 64-LQFP | M30291FAHP#U3A-ND◆ M30291FAHP#U5A-ND◆ M30291FAHP#U7A-ND◆ M30291FAHP#U9A-ND◆ | 12.48 | 11.24 | 9.97 |
| | | | | | | | | | | | | | 11.85 | 10.67 | 9.46 |
| | | | | | | | | | | | | | 12.71 | 11.45 | 10.15 |
| | | | | | | | | | | | | | 12.09 | 10.86 | 9.63 |
| Flash | 96K | — | 8K | 16-ch. 10-bit | — | 4 USART, 2 I ² C, 1 CAN | —/9/— | 55 | 20MHz/4.2 - 5.5V | -40°C - 125°C | 64-LQFP | M30291FAVHP#U3A-ND◆ | 15.20 | 14.19 | 13.17 |
| Flash | 128K | — 4K 4K | 12K | 16-ch. 10-bit | — | 4 USART, 2 I ² C, 1 CAN | —/9/— | 55 | 20MHz/2.7 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 64-LQFP 64-LQFP 64-LQFP 64-LQFP | M30291FCHP#U3A-ND◆ M30291FCHP#U5A-ND◆ M30291FCHP#U7A-ND◆ M30291FCHP#U9A-ND◆ | 13.58 | 12.20 | 10.82 |
| | | | | | | | | | | | | | 12.91 | 11.63 | 10.31 |
| | | | | | | | | | | | | | 13.81 | 12.41 | 11.00 |
| | | | | | | | | | | | | | 13.16 | 11.82 | 10.49 |

M32 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. | Price Each | | |
|-------------|-----------|------------------|-----------|---------------|-------------|------------------------------------------|----------------|------|-------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------|-------|-------|
| | | | | | | | | | | | | | 1 | 25 | 100 |
| ROMless | — | — | 8K | 10-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C | —/11/— | 48 | 32MHz/3 - 5.5V | -20°C - 85°C -20°C - 85°C -20°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-LQFP 100-LQFP | M30800SAP#U5-ND◆ M30800SAP#U5-ND◆ M30800SAGP#U5-ND◆ M30800SAGP#U5-ND◆ | 9.57 | 8.60 | 7.63 |
| | | | | | | | | | | | | | 10.02 | 9.00 | 7.98 |
| | | | | | | | | | | | | | 8.90 | 8.00 | 7.09 |
| | | | | | | | | | | | | | 9.35 | 8.40 | 7.45 |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-LQFP | M30833FJGP#U3-ND◆ M30833FJGP#U5-ND◆ | 40.19 | 37.51 | 34.83 |
| | | | | | | | | | | | | | 38.27 | 35.72 | 33.17 |
| | | | | | | | | | | | | | 39.95 | 37.29 | 34.62 |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30833FJGP#U3-ND◆ M30833FJGP#U5-ND◆ | 39.95 | 37.29 | 34.62 |
| | | | | | | | | | | | | | 38.00 | 35.47 | 32.93 |
| | | | | | | | | | | | | | 41.70 | 38.92 | 36.14 |
| Flash | 512K | — | 31K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30835FJGP#U3-ND◆ M30835FJGP#U5-ND◆ | 41.70 | 38.92 | 36.14 |
| | | | | | | | | | | | | | 39.68 | 37.03 | 34.39 |
| | | | | | | | | | | | | | — | — | — |
| ROMless | — | — | 10K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -20°C - 85°C | 100-LQFP | M30840SGP#U5-ND◆ | 8.87 | 8.28 | 7.69 |
| | | | | | | | | | | | | | 10.88 | 9.80 | 8.69 |
| Flash | 384K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP | M30843FHGP#U5-ND◆ M30843FHGP#U5-ND◆ | 24.86 | 23.20 | 21.55 |
| | | | | | | | | | | | | | 22.61 | 21.10 | 19.60 |
| Flash | 384K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C | 100-LQFP | M30843FHGP#U3-ND◆ | 24.20 | 22.59 | 20.97 |
| | | | | | | | | | | | | | 22.01 | 20.54 | 19.08 |
| | | | | | | | | | | | | | 22.01 | 20.54 | 19.08 |
| Flash | 512K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -40°C - 85°C -20°C - 85°C -20°C - 85°C -20°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP 100-LQFP 100-LQFP 100-QFP 100-LQFP | M30843FJGP#U3-ND◆ M30843FJGP#U5-ND◆ M30843FJGP#U5-ND◆ M30843FJGP#U5-ND◆ M30843FJGP#U5-ND◆ M30843FJGP#U5-ND◆ | 27.06 | 25.26 | 23.46 |
| | | | | | | | | | | | | | 26.40 | 24.64 | 22.88 |
| | | | | | | | | | | | | | 24.60 | 22.96 | 21.32 |
| | | | | | | | | | | | | | 24.00 | 22.40 | 20.80 |
| | | | | | | | | | | | | | 24.60 | 22.96 | 21.32 |
| | | | | | | | | | | | | | 24.00 | 22.40 | 20.80 |
| Flash | 320K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30843FJGP#U3-ND◆ M30843FJGP#U5-ND◆ | 23.10 | 21.56 | 20.02 |
| Flash | 384K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30845FHGP#U5-ND◆ M30845FHGP#U5-ND◆ | 27.50 | 25.67 | 23.83 |
| | | | | | | | | | | | | | 25.01 | 23.34 | 21.68 |
| Flash | 512K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30845FJGP#U3-ND◆ M30845FJGP#U5-ND◆ | 29.70 | 27.72 | 25.74 |
| Flash | 320K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 1 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30845FJGP#U3-ND◆ M30845FJGP#U5-ND◆ | 26.40 | 24.64 | 22.88 |
| | | | | | | | | | | | | | 24.00 | 22.40 | 20.80 |
| Flash | 384K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -20°C - 85°C -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-QFP 100-QFP 100-QFP 100-LQFP 100-LQFP | M30853FHGP#U5-ND◆ M30853FHGP#U5-ND◆ M30853FHGP#U5-ND◆ M30853FHGP#U3-ND◆ M30853FHGP#U5-ND◆ | 23.60 | 22.03 | 20.45 |
| | | | | | | | | | | | | | 25.97 | 24.24 | 22.51 |
| | | | | | | | | | | | | | 23.60 | 22.03 | 20.45 |
| | | | | | | | | | | | | | 25.31 | 23.62 | 21.94 |
| | | | | | | | | | | | | | 23.00 | 21.47 | 19.93 |
| | | | | | | | | | | | | | 23.00 | 21.47 | 19.93 |
| Flash | 512K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP 100-QFP 100-QFP | M30853FJGP#U3-ND◆ M30853FJGP#U5-ND◆ M30853FJGP#U5-ND◆ M30853FJGP#U5-ND◆ | 27.50 | 25.67 | 23.83 |
| | | | | | | | | | | | | | 25.01 | 23.34 | 21.68 |
| | | | | | | | | | | | | | 28.17 | 26.30 | 24.42 |
| | | | | | | | | | | | | | 25.61 | 23.90 | 22.20 |
| Flash | 320K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -20°C - 85°C -20°C - 85°C -40°C - 85°C | 100-QFP 100-LQFP 100-LQFP | M30853FWGP#U5-ND◆ M30853FWGP#U5-ND◆ M30853FWGP#U3-ND◆ | 31.58 | 29.47 | 27.37 |
| | | | | | | | | | | | | | 31.34 | 29.25 | 27.16 |
| | | | | | | | | | | | | | 32.90 | 30.71 | 28.51 |
| Flash | 384K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30855FHGP#U3-ND◆ M30855FHGP#U5-ND◆ | 28.61 | 26.70 | 24.80 |
| | | | | | | | | | | | | | 26.00 | 24.27 | 22.53 |
| Flash | 320K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30855FWGP#U3-ND◆ M30855FWGP#U5-ND◆ | 34.64 | 32.33 | 30.02 |
| | | | | | | | | | | | | | 33.00 | 30.80 | 28.60 |
| Flash | 512K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30855FJGP#U3-ND◆ M30855FJGP#U5-ND◆ | 30.80 | 28.75 | 26.69 |
| | | | | | | | | | | | | | 28.01 | 26.14 | 24.28 |
| Flash | 512K | — | 24K | 34-ch. 10-bit | 2-ch. 8-bit | 5 USART, 5 I ² C, 2 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 100-LQFP | M30855FJGP#U3-ND◆ M30855FJGP#U5-ND◆ | 31.91 | 29.78 | 27.66 |
| | | | | | | | | | | | | | 29.00 | 27.07 | 25.13 |
| Flash | 384K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 6 USART, IrDA, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30873FHGP#U3-ND◆ M30873FHGP#U5-ND◆ | 20.21 | 18.86 | 17.52 |
| | | | | | | | | | | | | | 18.36 | 17.14 | 15.92 |
| | | | | | | | | | | | | | 19.61 | 18.30 | 17.00 |
| | | | | | | | | | | | | | 17.82 | 16.64 | 15.45 |
| | | | | | | | | | | | | | 20.81 | 19.42 | 18.04 |
| | | | | | | | | | | | | | 18.90 | 17.64 | 16.38 |
| Flash | 384K | — | 24K | 26-ch. 10-bit | 2-ch. 8-bit | 6 USART, IrDA, 5 I ² C, 2 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30873FHGP#U3-ND◆ M30873FHGP#U5-ND◆ | 20.81 | 19.42 | 18.04 |
| | | | | | | | | | | | | | 18.90 | 17.64 | 16.38 |
| | | | | | | | | | | | | | 22.02 | 20.56 | 19.09 |
| | | | | | | | | | | | | | 20.18 | 18.83 | 17.49 |
| | | | | | | | | | | | | | 21.42 | 20.00 | 18.57 |
| | | | | | | | | | | | | | 19.64 | 18.33 | 17.02 |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 6 USART, IrDA, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30876FJGP#U3-ND◆ M30876FJGP#U5-ND◆ | 22.40 | 20.91 | 19.41 |
| | | | | | | | | | | | | | 20.36 | 19.00 | 17.65 |
| | | | | | | | | | | | | | 21.80 | 20.35 | 18.89 |
| | | | | | | | | | | | | | 19.82 | 18.50 | 17.18 |
| Flash | 512K | — | 31K | 26-ch. 10-bit | 2-ch. 8-bit | 6 USART, IrDA, 5 I ² C, 2 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30876FJGP#U3-ND◆ M30876FJGP#U5-ND◆ | 23.00 | 21.47 | 19.93 |
| | | | | | | | | | | | | | 20.90 | 19.51 | 18.11 |
| | | | | | | | | | | | | | 24.23 | 22.61 | 21.00 |
| | | | | | | | | | | | | | 22.19 | 20.71 | 19.23 |
| Flash | 512K | — | 31K | 34-ch. 10-bit | 2-ch. 8-bit | 7 USART, IrDA, 5 I ² C, 1 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30878FJGP#U3-ND◆ M30878FJGP#U5-ND◆ | 23.81 | 22.22 | 20.64 |
| | | | | | | | | | | | | | 21.65 | 20.21 | 18.76 |
| Flash | 512K | — | 31K | 34-ch. 10-bit | 2-ch. 8-bit | 7 USART, IrDA, 5 I ² C, 2 CAN | —/11/— | 124 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 144-LQFP 144-LQFP | M30878FJGP#U3-ND◆ M30878FJGP#U5-ND◆ | 24.83 | 23.17 | 21.52 |
| | | | | | | | | | | | | | 22.73 | 21.21 | 19.70 |
| Flash | 768K | — | 48K | 26-ch. 10-bit | 2-ch. 8-bit | 6 USART, IrDA, 5 I ² C, 1 CAN | —/11/— | 88 | 32MHz/3 - 5.5V | -40°C - 85°C -20°C - 85°C | 100-LQFP 100-LQFP | M30879KAGP#U3-ND◆ M30879KAGP#U5-ND◆ | 25.14 | 23.47 | 21.79 |
| | | | | | | | | | | | | | 22.86 | 21.34 | 19.82 |

◆ RoHS Compliant *SSU = SPI*

(Continued)

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Table with columns: Memory Type, ROM Bytes, Data Flash Bytes, RAM Bytes, A/D, D/A, Serial Communication, Timers, GPIO, Operating Frequency/Supply Voltage, Temperature, Package, Digi-Key Part No., Price Each (1, 25, 100).

R8C Tiny Series

The R8C 16-bit microcontrollers are small in size, yet big in performance and value. They excel for 8-bit embedded system applications that need low-cost devices and deliver high performance, yet save space with small, low-pin count packages.

Table with columns: Memory Type, ROM Bytes, Data Flash Bytes, RAM Bytes, A/D, D/A, Serial Communication, Timers, GPIO, Operating Frequency/Supply Voltage, Temperature, Package, Digi-Key Part No., Price Each (1, 25, 100).

RoHS Compliant *SSU = SPI

(Continued)

More Product Available Online: www.digkey.com

| 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 | 12K | 4K | 750 | 12-ch. 10-bit | — | 2 USART | 3/1/— | 24 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 32-LQFP | R5F21133FP#UO-ND | 5.13 | 4.11 | 3.20 |
| Flash | 12K | — | 750 | 4-ch. 10-bit | — | 1 USART, 1 SSU* | 3/1/— | 15 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F21143SP#UO-ND | 3.98 | 3.19 | 2.48 |
| Flash | 12K | 2K | 750 | 4-ch. 10-bit | — | 1 USART, 1 SSU* | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 20-LSSOP | R5F21153SP#UO-ND | 4.70 | 3.77 | 2.93 |
| Flash | 12K | — | 750 | 4-ch. 10-bit | — | 1 USART, 1 I ² C | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F21163SP#UO-ND | 4.14 | 3.32 | 2.58 |
| Flash | 12K | 2K | 750 | 4-ch. 10-bit | — | 1 USART, 1 I ² C | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F21173SP#UO-ND | 4.57 | 3.66 | 2.85 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21173DS#UO-ND | 4.86 | 3.89 | 3.03 |
| | | | | 4-ch. Comparator | — | 2 USART | 2/1/— | 16 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SDIP | R5F21183DD#UO-ND | 4.14 | 3.32 | 2.58 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21183DS#UO-ND | 3.87 | 3.10 | 2.41 |
| | | | | | | | | | | -20°C - 85°C | 28-HWQFN | R5F21183NP#UO-ND | 4.30 | 3.44 | 2.68 |
| | | | | | | | | | | -20°C - 85°C | 20-SSOP | R5F21183SP#UO-ND | 3.58 | 2.87 | 2.23 |
| | | | | | | | | | | -20°C - 85°C | 20-SDIP | R5F21193DD#UO-ND | 4.57 | 3.66 | 2.85 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21193DS#UO-ND | 4.30 | 3.44 | 2.68 |
| | | | | | | | | | | -20°C - 85°C | 28-HWQFN | R5F21193NP#UO-ND | 4.70 | 3.77 | 2.93 |
| | | | | | | | | | | -20°C - 85°C | 20-SSOP | R5F21193SP#UO-ND | 3.98 | 3.19 | 2.48 |
| Flash | 16K | — | 1K | 8-ch. 10-bit | — | 2 USART | 3/1/— | 24 | 16MHz/2.7 - 5.5V | -20°C - 85°C | 32-LQFP | R5F21104FP-ND | 5.11 | 4.09 | 3.18 |
| | | | | | | | | | | -40°C - 85°C | 32-LQFP | R5F21104FP#UO-ND | 4.86 | 3.89 | 3.03 |
| | | | | | | | | | | -20°C - 85°C | 20-SDIP | R5F211A4DD#UO-ND | 4.57 | 3.66 | 2.85 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F211A4DS#UO-ND | 4.30 | 3.44 | 2.68 |
| | | | | | | | | | | -20°C - 85°C | 28-HWQFN | R5F211A4NP#UO-ND | 4.70 | 3.77 | 2.93 |
| | | | | | | | | | | -20°C - 85°C | 20-LSSOP | R5F211A4SP#UO-ND | 3.98 | 3.19 | 2.48 |
| | | | | | | | | | | -20°C - 85°C | 20-SDIP | R5F211B4DD#UO-ND | 5.02 | 4.02 | 3.13 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F211B4DS#UO-ND | 4.75 | 3.80 | 2.96 |
| | | | | | | | | | | -20°C - 85°C | 28-HWQFN | R5F211B4NP#UO-ND | 5.13 | 4.11 | 3.20 |
| | | | | | | | | | | -20°C - 85°C | 20-LSSOP | R5F211B4SP#UO-ND | 4.43 | 3.55 | 2.76 |
| Flash | 16K | — | 1K | 12-ch. 10-bit | — | 2 USART | 3/1/— | 24 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 32-LQFP | R5F21114FP#UO-ND | 5.02 | 4.02 | 3.13 |
| | | | | | | | | | | -40°C - 85°C | 32-LQFP | R5F21124DF#UO-ND | 4.96 | 3.97 | 3.35 |
| | | | | | | | | | | -20°C - 85°C | 32-LQFP | R5F21124FP#UO-ND | 5.29 | 4.23 | 3.29 |
| Flash | 12K | 4K | 750 | 12-ch. 10-bit | — | 2 USART | 3/1/— | 24 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 32-LQFP | R5F21133DF#UO-ND | 4.82 | 3.86 | 3.26 |
| Flash | 16K | 4K | 1K | 12-ch. 10-bit | — | 2 USART | 3/1/— | 24 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 32-LQFP | R5F21134FP#UO-ND | 5.42 | 4.34 | 3.38 |
| | | | | | | | | | | -40°C - 85°C | 32-LQFP | R5F21134DF#UO-ND | 5.10 | 4.08 | 3.45 |
| Flash | 16K | — | 1K | 4-ch. 10-bit | — | 1 USART, 1 SSU* | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F21144SP#UO-ND | 4.30 | 3.44 | 2.68 |
| Flash | 16K | 2K | 1K | 4-ch. 10-bit | — | 1 USART, 1 SSU* | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 20-LSSOP | R5F21154SP#UO-ND | 4.70 | 3.77 | 2.93 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21154DS#UO-ND | 5.02 | 4.02 | 3.13 |
| Flash | 16K | — | 1K | 4-ch. 10-bit | — | 1 USART, 1 I ² C | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F21164SP#UO-ND | 4.43 | 3.55 | 2.76 |
| Flash | 16K | 2K | 1K | 4-ch. 10-bit | — | 1 USART, 1 I ² C | 2/1/— | 15 | 20MHz/2.7 - 5.5V | -40°C - 85°C | 20-LSSOP | R5F21174DS#UO-ND | 5.13 | 4.11 | 3.20 |
| Flash | 4K | — | 375 | 4-ch. Comparator | — | 2 USART | 2/1/— | 16 | 20MHz/2.7 - 5.5V | -20°C - 85°C | 20-SDIP | R5F21181DD#UO-ND | 3.58 | 2.87 | 2.23 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21181DS#UO-ND | 3.44 | 2.76 | 2.15 |
| | | | | | | | | | | -20°C - 85°C | 20-SDIP | R5F21184DD#UO-ND | 4.43 | 3.55 | 2.76 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21184DS#UO-ND | 4.16 | 3.33 | 2.59 |
| | | | | | | | | | | -20°C - 85°C | 28-HWQFN | R5F21184NP#UO-ND | 4.57 | 3.66 | 2.85 |
| | | | | | | | | | | -20°C - 85°C | 20-SSOP | R5F21184SP#UO-ND | 3.87 | 3.10 | 2.41 |
| | | | | | | | | | | -20°C - 85°C | 20-SDIP | R5F21194DD#UO-ND | 4.86 | 3.89 | 3.03 |
| | | | | | | | | | | -40°C - 85°C | 20-LSSOP | R5F21194DS#UO-ND | 4.59 | 3.68 | 2.86 |
| | | | | | | | | | | -20°C - 85°C | 28-HWQFN | R5F21194NP#UO-ND | 5.02 | 4.02 | 3.13 |
| | | | | | | | | | | -20°C - 85°C | 20-LSSOP | R5F21194SP#UO-ND | 4.30 | 3.44 | 2.68 |
| Flash | 96K | — | 7K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 I ² C | 3/4/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212AASDFA#UO-ND | 6.94 | 5.56 | 4.69 |
| | | | | | | | | | | -40°C - 85°C | 64-LQFP | R5F212AASDFA#UO-ND | 6.94 | 5.56 | 4.69 |
| Flash | 96K | — | 7K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/4/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212AASNFF#UO-ND | 6.66 | 5.33 | 4.50 |
| Flash | 128K | — | 7.5K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 I ² C | 3/4/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212ACSNFF#UO-ND | 7.20 | 5.76 | 4.86 |
| Flash | 48K | — | 2.5K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/4/— | 57 | 20MHz/2.2 - 5.5V | -40°C - 85°C | 64-LQFP | R5F212A7SDFF#UO-ND | 6.14 | 4.92 | 4.15 |
| Flash | 48K | — | 2.5K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/2/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212A7SNFF#UO-ND | 5.86 | 4.69 | 3.96 |
| | | | | | | | | | | -40°C - 85°C | 64-LQFP | R5F212A7SNFF#UO-ND | 5.86 | 4.69 | 3.96 |
| | | | | | | | | | | -40°C - 85°C | 64-LQFP | R5F212A8SNFF#UO-ND | 6.14 | 4.92 | 4.15 |
| | | | | | | | | | | -40°C - 85°C | 64-LQFP | R5F212A8SNFF#UO-ND | 6.14 | 4.92 | 4.15 |
| Flash | 64K | — | 3K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/2/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212BASNFA#UO-ND | 7.06 | 5.65 | 4.77 |
| Flash | 96K | 2K | 7K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, I ² C | 3/4/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212BCSNFF#UO-ND | 7.60 | 6.08 | 5.13 |
| Flash | 128K | 2K | 7.5K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 I ² C | 3/4/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212B7SNFF#UO-ND | 6.26 | 5.01 | 4.23 |
| Flash | 48K | 2K | 2.5K | 12-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/2/— | 57 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 64-LQFP | R5F212B8SNFF#UO-ND | 6.80 | 5.44 | 4.59 |
| | | | | | | | | | | -40°C - 85°C | 64-LQFP | R5F212B8SNFF#UO-ND | 6.54 | 5.24 | 4.42 |
| Flash | 96K | 2K | 7K | 20-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/4/— | 73 | 20MHz/2.2 - 5.5V | -40°C - 85°C | 80-LQFP | R5F212DASDFF#UO-ND | 7.86 | 6.29 | 5.31 |
| Flash | 128K | 2K | 7.5K | 20-ch. 10-bit | 2-ch. 8-bit | 3 USART, I ² C | 3/4/— | 73 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 80-LQFP | R5F212DCSNFF#UO-ND | 8.14 | 6.52 | 5.50 |
| Flash | 48K | 2K | 2.5K | 20-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/4/— | 73 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 80-LQFP | R5F212D7SNFF#UO-ND | 6.80 | 5.44 | 4.59 |
| Flash | 64K | 2K | 3K | 20-ch. 10-bit | 2-ch. 8-bit | 3 USART, 1 SSU*, 1 I ² C | 3/4/— | 73 | 20MHz/2.2 - 5.5V | -20°C - 85°C | 80-LQFP | R5F212D8SNFF#UO-ND | 7.06 | 5.65 | 4.77 |
| Flash | 16K | — | 512 | — | — | 2 UART | 3/1/— | 27 | 8MHz/2.7 - 5.5V | -20°C - 85°C | 32-LQFP | R5F212GASNFF#UO-ND | 4.50 | 3.60 | 2.80 |
| Flash | 32K | — | 1K | — | — | 2 UART | 3/1/— | 27 | 8MHz/2.7 - 5.5V | -20°C - 85°C | 32-LQFP | R5F212G6SNFF#UO-ND | 5.11 | 4.09 | 3.18 |
| Flash | 4K | — | 256 | — | — | 2 UART | 3/1/— | 15 | 8MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F212H1SNSP#UO-ND | 3.31 | 2.65 | 2.06 |
| Flash | 8K | — | 384 | — | — | 2 UART | 3/1/— | 15 | 8MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F212H2SNSP#UO-ND | 3.60 | 2.88 | 2.24 |
| Flash | 2K | — | 256 | — | — | 1 UART | 2/1/— | 12 | 8MHz/2.7 - 5.5V | -20°C - 85°C | 20-SSOP | R5F212J0SNSP#UO-ND | 2.86 | 2.29 | 1.78 |
| | | | | | | | | | | -40°C - 85°C | 48-LQFP | R5F21207JFF#UO-ND | 5.84 | 4.68 | 3.95 |
| | | | | | | | | | | -40°C - 125°C | 48-LQFP | R5F21207KFF#UO-ND | 7.13 | 5.71 | 4.44 |
| | | | | | | | | | | -40°C - 85°C | 48-LQFP | R5F21227JFF#UO-ND | 6.86 | 5.49 | 4.64 |
| | | | | | | | | | | -40°C - 125°C | 48-LQFP | R5F21227KFF#UO-ND | 7.36 | 5.89 | 4.97 |
| | | | | | | | | | | -40°C - 85°C | 52-LQFP | R5F21244SDFF#UO-ND | 4.82 | 3.86 | 3.26 |
| | | | | | | | | | | -20°C - 85°C | 52-LQFP | R5F21244SNFF#UO-ND | 5.13 | 4.11 | 3.20 |
| | | | | | | | | | | -40°C - 85°C | 52-LQFP | R5F21246SDFF#UO-ND | 5.10 | 4.08 | 3.45 |
| | | | | | | | | | | -20°C - 85°C | 52-LQFP | R5F21246SNFF#UO-ND | 4.82 | 3.86 | 3.26 |
| | | | | | | | | | | -40°C - 85°C | 52-LQFP | R5F21247SDFF#UO-ND | 5.60 | 4.48 | 3.78 |
| | | | | | | | | | | -20 | | | | | |

| 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 | 2K | 500 | 12-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 28 | 20MHz/2.2 - 5.5V | -40°C - 85°C -20°C - 85°C | 32-LQFP 32-LQFP | R5F21272SDFF#U0-ND R5F21272SNFP#U0-ND | 5.24 4.95 | 4.20 3.96 | 3.27 3.08 |
| Flash | 16K | 2K | 1K | 12-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 28 | 20MHz/2.2 - 5.5V | -40°C - 85°C -20°C - 85°C | 32-LQFP 32-LQFP | R5F21274SDFF#U0-ND R5F21274SNFP#U0-ND | 5.56 5.24 | 4.45 4.20 | 3.46 3.27 |
| Flash | 24K | 2K | 1.5K | 12-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 28 | 20MHz/2.2 - 5.5V | -40°C - 85°C -20°C - 85°C | 32-LQFP 32-LQFP | R5F21275SDFF#U0-ND R5F21275SNFP#U0-ND | 5.20 5.56 | 4.16 4.45 | 3.51 3.46 |
| Flash | 32K | 2K | 1.5K | 12-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 28 | 20MHz/2.2 - 5.5V | -40°C - 85°C -20°C - 85°C | 32-LQFP 32-LQFP | R5F21276SDFF#U0-ND R5F21276SNFP#U0-ND | 5.46 5.20 | 4.37 4.16 | 3.69 3.51 |
| Flash | 8K | — | 500 | 4-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 16 | 20MHz/2.2 - 5.5V | -40°C - 85°C | 20-LSSOP | R5F21282SDSP#U0-ND | 4.21 | 3.37 | 2.62 |
| Flash | 16K | — | 1K | 4-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 16 | 20MHz/2.2 - 5.5V | -40°C - 85°C | 20-LSSOP | R5F21284SDSP#U0-ND | 4.50 | 3.60 | 2.80 |
| Flash | 16K | 2K | 1K | 4-ch. 10-bit | — | 2 USART, 1 SSU*, 1 I ² C | 3/1/— | 16 | 20MHz/2.2 - 5.5V | -40°C - 85°C | 20-LSSOP | R5F21294SDSP#U0-ND | 4.95 | 3.96 | 3.08 |

◆ RoHS Compliant *SSU = SPI[®]

C

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 | 8.64 | 6.92 | 5.84 |
| Flash | 32K | — | 1K | — | — | 3 USART, 1 USB | 3/2/— | 66 | 24MHz/3 - 5.25V | -20°C - 70°C | 80-LQFP | M37641F8HP#U0-ND | 10.80 | 9.72 | 8.62 |
| OTP | 24K | — | 512 | 8-ch. 8-bit | — | 1 USART | 3/2/— | 38 | 8MHz/1.8 - 5.5V | -20°C - 85°C | 64-LQFP | M38C13E6HP#U0-ND | 6.80 | 5.44 | 4.59 |
| Flash | 60K | — | 2K | 8-ch. 10-bit | — | 2 USART | 4/2/— | 51 | 8MHz/1.8 - 5.5V | -20°C - 85°C | 64-LQFP | M38C29FFAFP#U0-ND | 9.90 | 7.92 | 6.69 |
| 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#U0-ND M38D24G4HP#U0-ND | 4.79 4.79 | 3.84 3.84 | 2.99 2.99 |
| QzROM | 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#U0-ND M38D24G6HP#U0-ND | 5.11 5.11 | 4.09 4.09 | 3.18 3.18 |
| QzROM | 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#U0-ND M38D58G8HP#U0-ND | 5.34 5.34 | 4.28 4.28 | 3.61 3.61 |
| QzROM | 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 | M38D59GCFP#U0-ND M38D59GCHP#U0-ND | 5.60 5.60 | 4.48 4.48 | 3.78 3.78 |
| QzROM | 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#U0-ND M38D59GFHP#U0-ND | 5.84 5.84 | 4.68 4.68 | 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 | M38K29F8LHP#U0-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#U0-ND | 9.86 | 7.89 | 6.66 |
| QzROM | 48K | — | 2K | 16-ch. 10-bit | 2-ch. 8-bit | 3 USART | 4/1/— | 56 | 16.8MHz/2 - 5.5V | -20°C - 85°C | 64-LQFP | M38039GCHHP#U0-ND | 5.40 | 4.32 | 3.36 |
| QzROM | 16K | — | 2K | 16-ch. 10-bit | 2-ch. 8-bit | 3 USART | 4/1/— | 56 | 16.8MHz/2 - 5.5V | -20°C - 85°C | 64-LQFP 64-SDIP | M38039G4HHP#U0-ND M38039G4HSP#U0-ND | 3.96 5.51 | 3.17 4.41 | 2.47 3.43 |
| QzROM | 24K | — | 2K | 16-ch. 10-bit | 2-ch. 8-bit | 3 USART | 4/1/— | 56 | 16.8MHz/2 - 5.5V | -20°C - 85°C | 64-LQFP 64-LQFP 64-SDIP | M38039G6HHP#U0-ND M38039G6HHP#U0-ND M38039G6HSP#U0-ND | 4.21 4.32 5.14 | 3.37 3.46 4.12 | 2.62 2.69 3.47 |
| QzROM | 32K | — | 2K | 16-ch. 10-bit | 2-ch. 8-bit | 3 USART | 4/1/— | 56 | 16.8MHz/2 - 5.5V | -20°C - 85°C | 64-LQFP 64-LQFP 64-SDIP | M38039G8HHP#U0-ND M38039G8HHP#U0-ND M38039G8HSP#U0-ND | 4.48 4.59 5.38 | 3.59 3.68 4.31 | 2.79 2.86 3.64 |
| QzROM | 48K | — | 2K | 16-ch. 10-bit | 2-ch. 8-bit | 3 USART | 4/1/— | 56 | 16.8MHz/2 - 5.5V | -20°C - 85°C | 64-LQFP 64-SDIP | M38039GCHHP#U0-ND M38039GCHSP#U0-ND | 5.56 6.40 | 4.45 5.12 | 3.46 4.32 |
| QzROM | 16K | — | 512 | 9-ch. 10-bit | 2-ch. 8-bit | 2 UART | 4/1/— | 34 | 12.5MHz/1.8 - 5.5V | -20°C - 85°C | 42-SSOP | M38503G4AFP#U1-ND | 3.89 | 3.12 | 2.43 |
| QzROM | 16K | — | 512 | 9-ch. 10-bit | 2-ch. 8-bit | 2 UART | 4/—/— | 34 | 12.5MHz/1.8 - 5.5V | -20°C - 85°C | 42-DIP | M38503G4ASP#U1-ND | 5.11 | 4.09 | 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#U0-ND M38588GSP#U0-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 | M38869FFAFP#U0-ND M38869FFAFP#U0-ND | 9.08 14.48 | 8.16 13.51 | 7.24 12.55 |
| ROMless | — | — | 148K | — | — | 3 UART, 1 USART, 1 I ² C | —/4/4 | 132 | 266MHz/1.2V | -20°C - 70°C | 449-BGA | R8A77220AC266BGV-ND | 45.00 | 42.00 | 39.00 |

◆ RoHS Compliant *SSU = SPI[®]

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 | Price Each 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 |
| ROMless | — | — | 16K | — | — | 4 USART, IrDA | —/2/— | 78 | 125MHz/1.71 - 1.89V | -20°C - 70°C | 176-LFBGA 176-LFBGA | DS76190B125BGV-ND DS76190M125BGV-ND | 18.09 19.01 | 16.89 17.74 | 15.68 16.48 |
| ROMless | — | — | 8K | 8-ch. 10-bit | — | 4 USART, IrDA, Smart Card, 1 I ² C | —/5/— | 106 | 50MHz/3 - 3.6V | -20°C - 75°C | 114-LQFP | HD6417145F50V-ND | 11.02 | 9.90 | 8.78 |
| ROMless | — | — | — | 8-ch. 10-bit | 2-ch. 10-bit | UART | —/1/3 | 96 | 100MHz/3.3V 137MHz/3.3V | -20°C - 75°C | 208-QFP 208-QFP | D6417709SF100BV-ND D6417709SF133BV-ND | 21.57 23.72 | 20.14 22.14 | 18.70 20.56 |
| ROMless | — | — | 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 |
| ROMless | — | — | 16K | 6-ch. 10-bit | 2-ch. 8-bit | 3 UART, 2 USB, Smart Card | —/—/3 | 104 | 167MHz/1.9V | -20°C - 75°C | 240-BGA 240-BGA | HD6417727BP160CV-ND | 35.93 | 33.53 | 31.14 |
| Flash | 256K | — | 12K | 16-ch. 10-bit | — | 3 USART, IrDA, 1 CAN | —/5/— | 69 | 50MHz/4.5 - 5.5V | -20°C - 75°C | 100-QFP | HD64F047F50V-ND | 19.04 | 17.77 | 16.50 |

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 | Price Each 25 | 100 |
|-------------|-----------|------------------|-----------|--------------|-----|----------------------|----------------|------|--------------------------------------------------------------|--------------|-------------------------------|---------------------------------------------------------------|-------------------------|-------------------------|-------------------------|
| ROMless | — | — | 3K | 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 |
| ROMless | — | — | 4K | 8-ch. 10-bit | — | 2 USART, IrDA | —/5/— | 82 | 16.7MHz/3 - 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 |
| ROMless | — | — | 4K | 8-ch. 10-bit | — | 2 USART, IrDA | —/5/— | 82 | 28.7MHz/4.5 - 5.5V 28.7MHz/4.5 - 5.5V 16.7MHz/3 - 3.6V | -20°C - 75°C | 144-QFP 144-QFP 144-QFP | HD6417041ACF28V-ND HD6417041AF28V-ND HD6417041AVF16V-ND | 18.48 18.48 19.25 | 17.25 17.25 17.97 | 16.02 16.02 16.68 |

◆ RoHS Compliant *SSU = SPI[®]

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