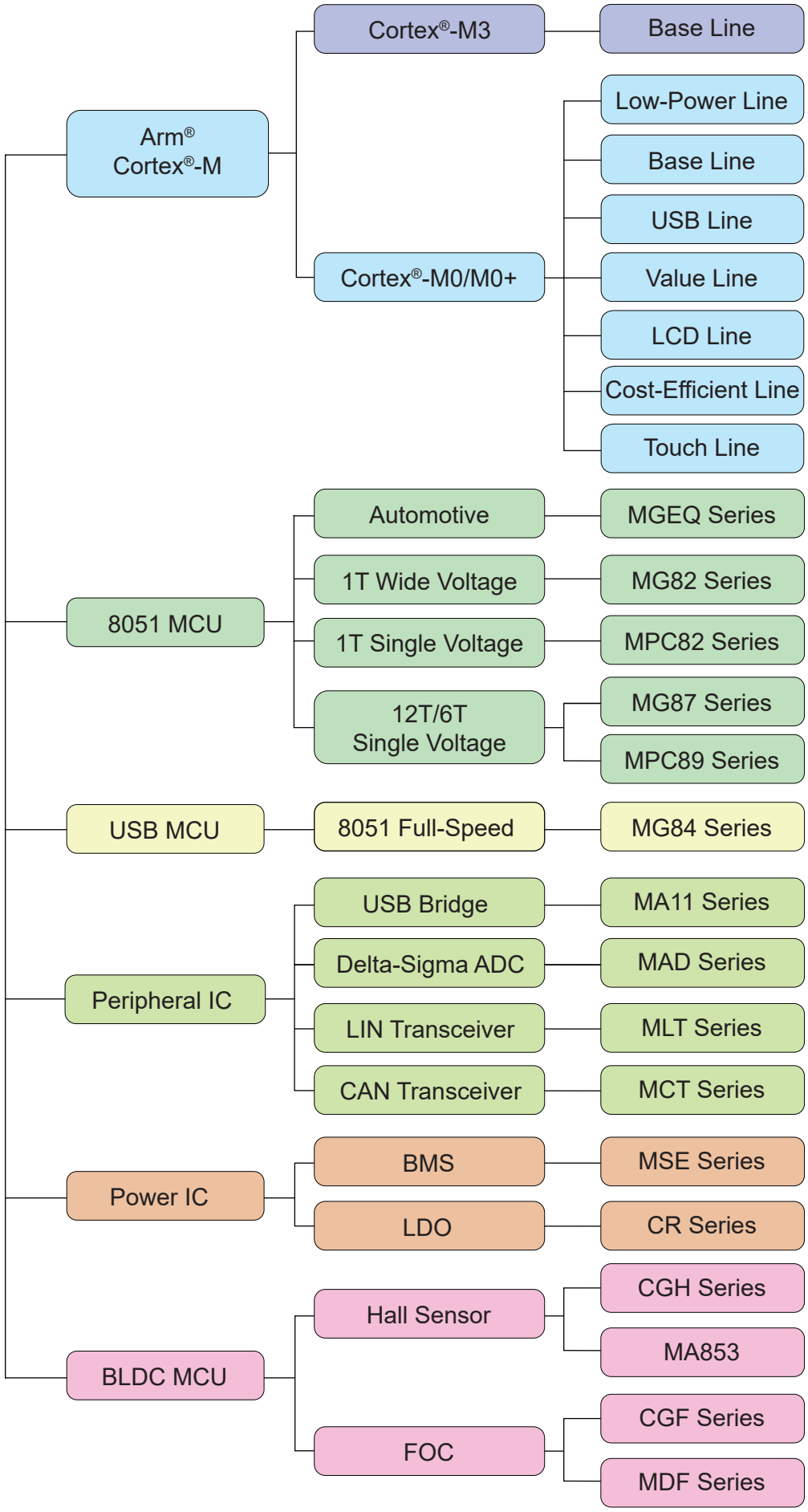
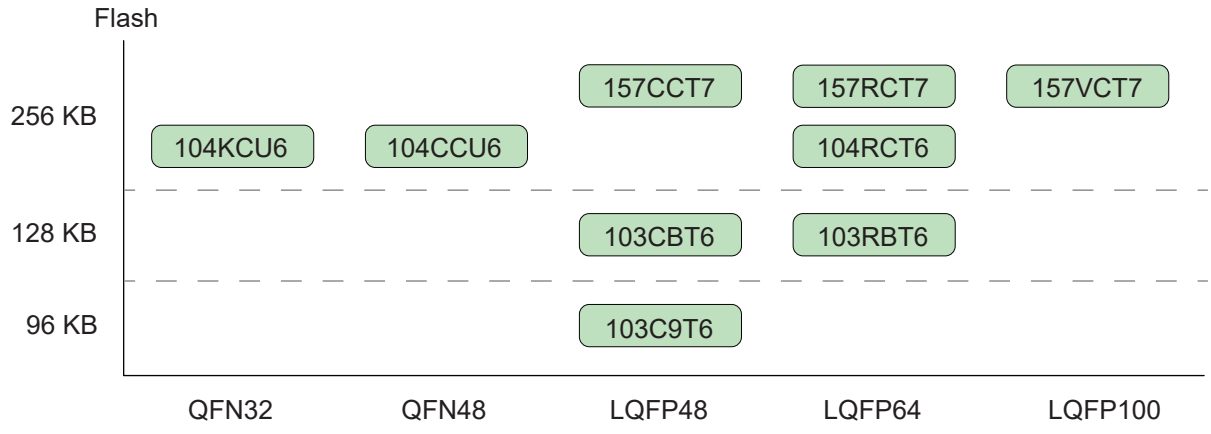
Product Category



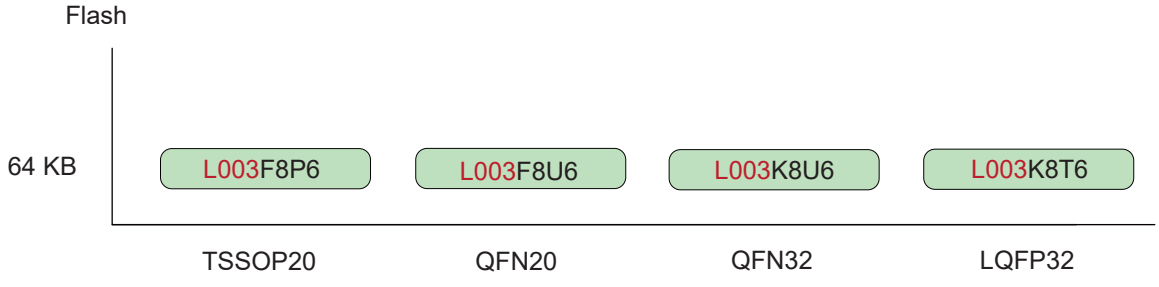
Arm® Cortex®-M3 Base Line



Part No.	Vdd	Flash ROM	Data RAM	Max Freq.	20-Bit Timer	IO	12-Bit ADC	Comp.	Features	Package
MG32F103	2V~3.6V	96KB 128KB	28KB	72MHz	4+RTC	37 51	10-CH 16-CH	2	UARTx3, I²C x2, SPI Mx1, SPI S x2,QSPI,I²S,USB, LED SEG x8	LQFP48 LQFP64
MG32F104	2V~3.6V	256KB	36KB	96MHz	4+RTC	25 39 51	16-CH	2	UARTx3, I²C x2, SPI Mx1, SPI S x2,QSPI,I²S,USB, LED SEG x8	QFN32 QFN48 LQFP64
MG32F157	2V~3.6V	256KB	64KB	96MHz	8+RTC	37 51 80	18-CH	3*1	UARTx5, I²C x2, SPIx3, QSPI,CAN,USB,SDIO CRC,OPA x3,AES,DAC x2,ADC x3	LQFP48 LQFP64 LQFP100

*1Comparator shared with OPA

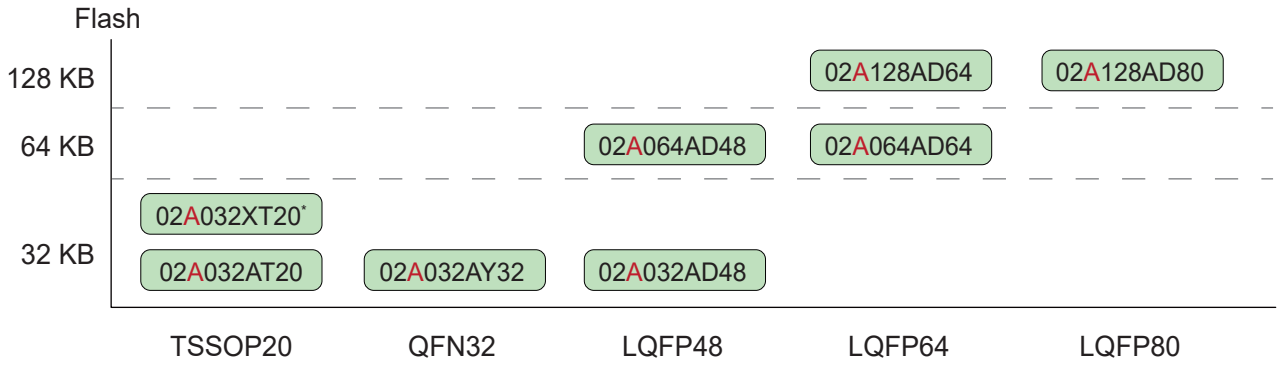
Low-Power Line Arm® Cortex®-M0+



Part No.	Vdd	Flash ROM	Data RAM	Max Freq.	Timer	IO	12-Bit ADC	ACMP.	Features	CCP*4	ISP/IAP	Package
MG32L003*1	2.5V~ 5.5V	64KB	4KB	24MHz	9+RTC LP Timer	16/28	15-CH	1*5	UART*2x2,LPUART, I²C,SPI,PWM, CRC16,1-Wire	6-CH	YES*3	TSSOP20 QFN20 QFN32 LQFP32

*1 Support M-LINK ICE;
*2 UART x2: Support SPI Master mode, not support Slave mode;
*3 Share with all Flash zone;
*4 CCP: Input Capture/Output Compare/PWM;
*5 Low Voltage Detector (LVD) / Voltage Comparator (ACMP)

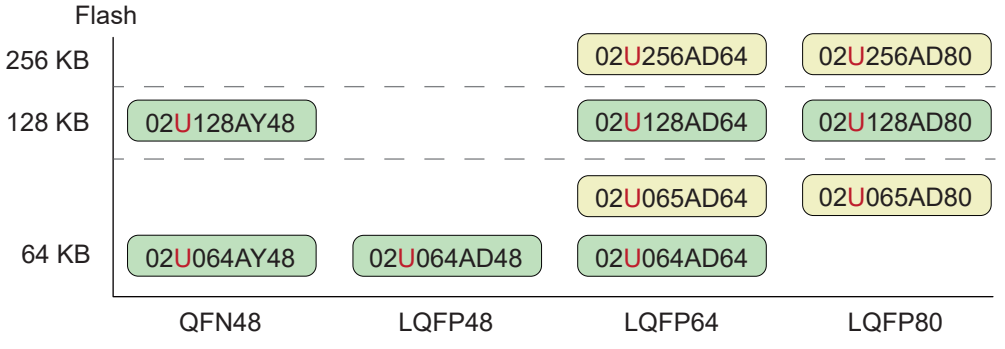
Arm® Cortex®-M0 Base Line



Part No.	Vdd	Flash ROM	Data RAM	Max. Freq.	Timer	IO	12-Bit ADC	Comp.	Features	CCP*4	ISP/IAP	Package
MG32F02A032*1	1.8V~ 5.5V	32KB	4KB	48MHz	5+RTC	17/29/44	12-CH	2	UART*2 x2, I²C,SPI/QPI, PWM,CRC32, DMA	4-CH	YES*3	TSSOP20 QFN32 LQFP48
MG32F02A064*1	1.8V~ 5.5V	64KB	8KB	48MHz	7+RTC	44/59	16-CH	2	UART*5x7, I²Cx2,SPI*6 x4, CRC32,DMA,DAC,EMB	8-CH	YES*3	LQFP48 LQFP64
MG32F02A128*1	1.8V~ 5.5V	128KB	16KB	48MHz	7+RTC	59/73	16-CH	2	UART*5x7, I²Cx2,SPI*6 x4, CRC32,DMA,DAC,EMB	8-CH	YES*3	LQFP64 LQFP80

* MG32F02A032XT20 Supports operation temperature: -40~125°C;
*1 Support M-LINK ICE;
*2 All UART support SPI Master;
*3 Share with all Flash zone;
*4 CCP: Input Capture/Output Compare/PWM;
*5 Advanced UART x 3: Support SPI Master/Slave (UART 0/1/2 modules); Basic UART x 4: UART only (UART 4/5/6/7 modules).
*6 Advanced SPI x 1: Support SPI/QPI/OPI (SPI 0 modules); Basic SPI x 3: Standard SPI only (Configurable in UART 0/1/2 modules).

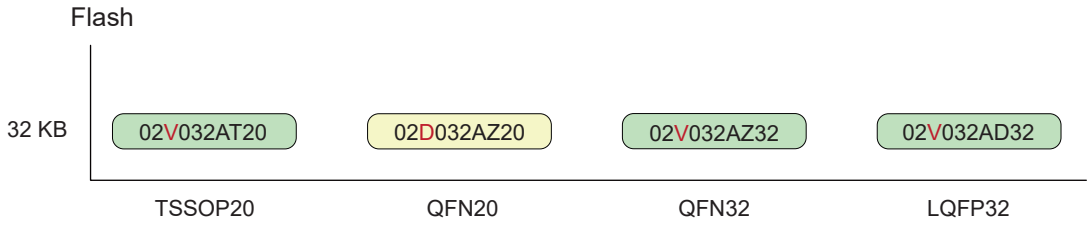
Arm® Cortex®-M0 USB Line



Part No.	Vdd	Flash ROM	Data RAM	Max. Freq.	Timer	IO	12-Bit ADC	Comp.	Features	CCP*3	ISP/IAP	Package
MG32F02U064*1	1.8V~ 5.5V~	64KB	16KB	48MHz	7+RTC	41/56	16-CH	2	UART*4 x7,I²C x2, SPI*5 x4, USB,CRC32, DMA, DAC, EMB	8-CH	YES*2	QFN48 LQFP48 LQFP64
MG32F02U065*1	1.8V~ 5.5V	64KB	16KB	48MHz	7+RTC	41/56	16-CH	2	UART*4 x7,I²C x2, SPI*5 x4, USB,CRC32,DMA,DAC,EMB,ARGB	8-CH	YES*2	LQFP64 LQFP80
MG32F02U128*1	1.8V~ 5.5V	128KB	16KB	48MHz	7+RTC	56/70	16-CH	2	UART*4 x7,I²C x2, SPI*5 x4, USB,CRC32, DMA, DAC, EMB	8-CH	YES*2	QFN48 LQFP64 LQFP80
MG32F02U256*1	1.8V~ 5.5V	256KB	32KB	48MHz	7+RTC	56/70	16-CH	2	UART*4 x7,I²C x2, SPI*5 x4, USB,CRC32, DMA, DAC, EMB	8-CH	YES*2	LQFP64 LQFP80

<Models in the yellow grid will be launched soon.>
*1 Support M-LINK ICE;
*2 Share with all Flash zone;
*3 CCP: Input Capture/Output Compare/PWM;
*4 Advanced UART x 3: Support SPI Master/Slave (UART 0/1/2 modules); Basic UART x 4: UART only (UART 4/5/6/7 modules);
*5 Advanced SPI x 1: Support SPI/QPI/OPI (SPI 0 module); Basic SPI x 3: Standard SPI only (Configurable in UART 0/1/2 modules).

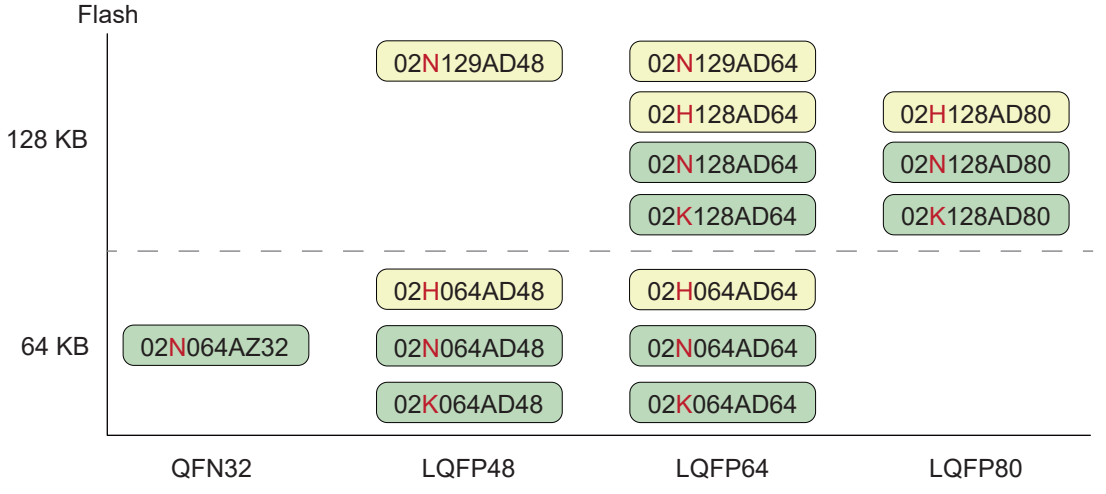
Arm® Cortex®-M0 Value Line



Part No.	Vdd	Flash ROM	Data RAM	Max Freq.	Timer	IO	12-Bit ADC	Comp.	Features	CCP*4	ISP/IAP	Package
MG32F02V032*1	1.8V~ 3.6V	32KB	4KB	48MHz	6+RTC	17/29	8-CH	NA	UART*2 x3, I²C x2 SPI/QPI,PWM CRC32,DMA,ASB	6-CH	YES*3	TSSOP20 LQFP32 QFN32
MG32F02D032*1	2.7V~ 5.5V	32KB	2KB	24MHz	3	13	4-CH	NA	UART*2, I²C, SPI PWM, DAC x2	2-CH	YES*3	QFN20

<Models in the yellow grid will be launched soon.>
*1 Support M-LINK ICE; *2 Advanced UART x2: Support SPI Master/Slave (UART 0/1 modules);
*3 Share with all Flash zone; *4 CCP: Input Capture/Output Compare/PWM.

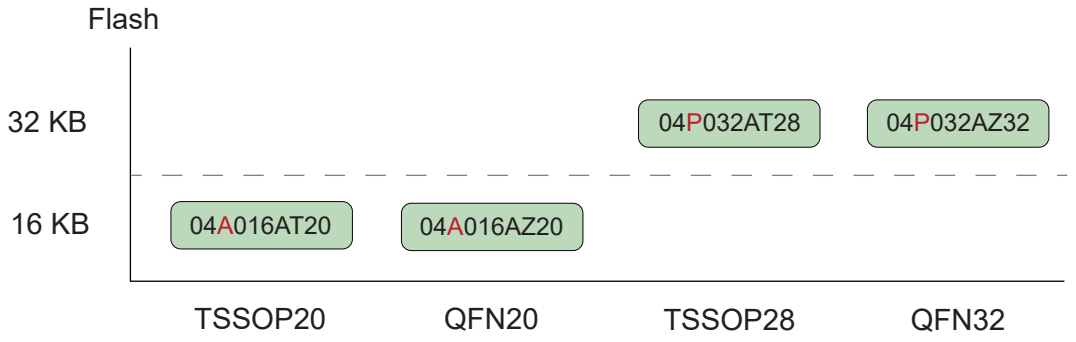
Arm® Cortex®-M0 LCD Line



Part No.	Vdd	Flash ROM	Data RAM	Max. Freq.	Timer	IO	12-Bit ADC	Comp.	Features	CCP*3	ISP/IAP	Package
MG32F02K064*1	1.8V~ 5.5V	64KB	10KB	48MHz	7+RTC	44/59	16-CH	2	UARTx7,I²Cx2,SPIx4,LIN, LCD,OPA,DMA,CRC32	8-CH	YES*2	LQFP48 LQFP64
MG32F02K128*1	1.8V~ 5.5V	128KB	16KB	48MHz	7+RTC	59/73	16-CH	2	UARTx7,I²Cx2,SPIx4,LIN, LCD,OPA,DMA,CRC32	8-CH	YES*2	LQFP64 LQFP80
MG32F02N064*1	1.8V~ 5.5V	64KB	10KB	48MHz	5+RTC	29/44/ 59	16-CH	2	UARTx7,I²Cx2,SPIx4,LIN,LCD, CAN,OPA,DMA,CRC32	8-CH	YES*2	QFN32 LQFP48 LQFP64
MG32F02N128*1	1.8V~ 5.5V	128KB	16KB	48MHz	5+RTC	59/73	16-CH	2	UARTx7,I²Cx2,SPIx4,LIN,LCD, CAN,OPA,DMA,CRC32	8-CH	YES*2	LQFP64 LQFP80
MG32F02N129*1	1.8V~ 5.5V	128KB	16KB	72MHz	5+RTC	44/59	16-CH	2	UARTx3,I²Cx2, SPI, LIN, CANx2, DMA,CRC32	8-CH	YES*2	LQFP48 LQFP64
MG32F02H064*1	1.8V~ 5.5V	64KB	10KB	48MHz	7+RTC	44/59	16-CH	2	UARTx7,I²Cx2,SPIx4,LIN,LCD, OPA,DMA,CRC32,△-Σ ADC	8-CH	YES*2	LQFP64 LQFP80
MG32F02H128*1	1.8V~ 5.5V	128KB	16KB	48MHz	7+RTC	59/73	16-CH	2	UARTx7,I²Cx2,SPIx4,LIN,LCD, OPA,DMA,CRC32,△-Σ ADC	8-CH	YES*2	LQFP64 LQFP80

<Models in the yellow grid will be launched soon.>
MG32F02N129: Support operation temperature: -40~125°C
*1 Support M-LINK ICE;
*2 Share with all Flash zone;
*3 CCP: Input Capture/Output Compare/PWM.

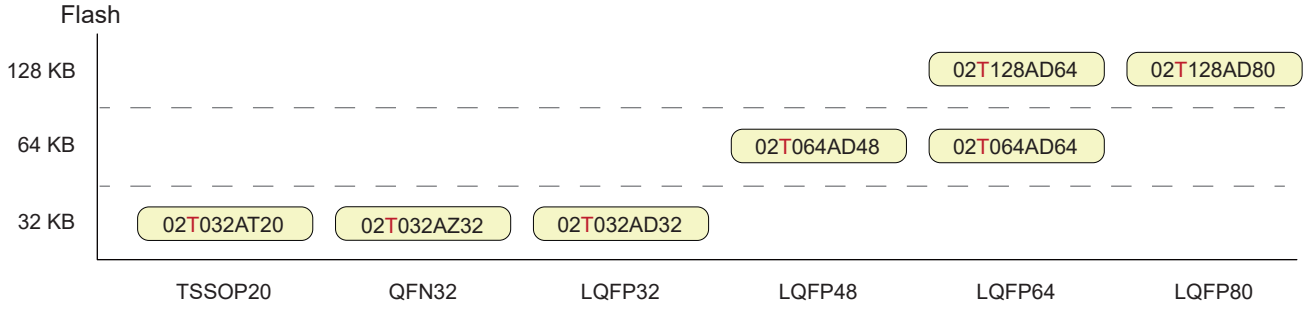
Arm® Cortex®-M0 Cost-Efficient Line



Part No.	Vdd	Flash ROM	Data RAM	Max Freq.	Timer	IO	12-Bit ADC	Comp.	Features	CCP*2	ISP/IAP	Package
MG32F04A016*1	2V~5.5V	16KB	2KB	48MHz	3	18	8-CH	NA	UARTx2,SPI,I²C, CRC32,UID	5-CH	NA	QFN20 TSSOP20
MG32F04P032*1	2.5V~5.5V	32KB	4KB	60MHz	5	26	10-CH	2	OPAx2,USART, DMA,UID,HW Divider	5-CH	YES	TSSOP28 QFN32

*1 Support M-LINK ICE;
*2 CCP: Input Capture/Output Compare/PWM.

Arm® Cortex®-M0 Touch Line



Part No.	Vdd	Flash ROM	Data RAM	Max Freq.	Timer	IO	12-Bit ADC	Comp.	Features	CCP*4	ISP/IAP	Package
MG32F02T032*1	1.8V~ 5.5V	32KB	4KB	48MHz	6+RTC	17/29	8-CH	NA	UART*2 x3,I²C x2 SPI/QPI,PWM,CRC32 DMA,Touch Key x10	6-CH	YES*3	TSSOP20 LQFP32 QFN32
MG32F02T064*1	1.8V~ 5.5V	64KB	10KB	48MHz	7+RTC	44/59	16-CH	2	UART*2 x7,I²C x2,SPIx4 LIN,LCD,OPA,CRC32, DMA,Touch Key x16	8-CH	YES*3	LQFP48 LQFP64
MG32F02T128*1	1.8V~ 5.5V	128KB	16KB	48MHz	7+RTC	59/73	16-CH	2	UART*2 x7,I²C x2,SPIx4 LIN,LCD,OPA,CRC32, DMA,Touch Key x16	8-CH	YES*3	LQFP64 LQFP80

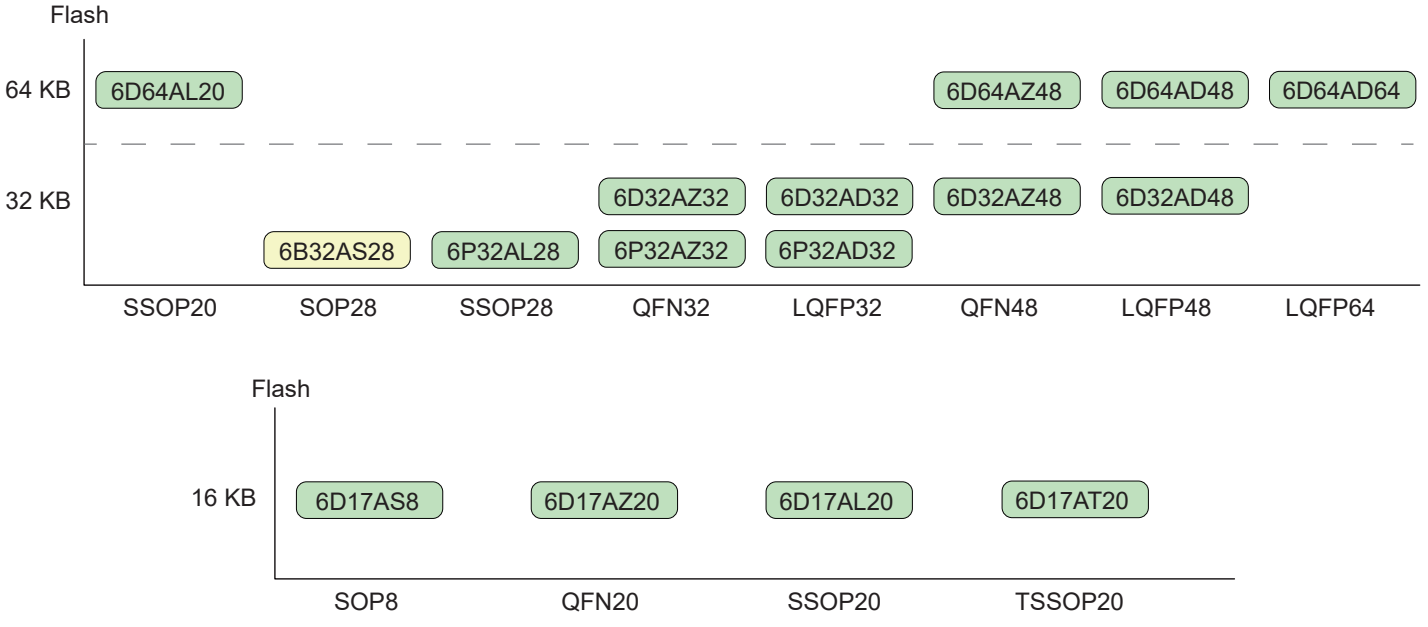
<Models in the yellow grid will be launched soon.>
*1 Support M-LINK ICE;
*2 Advanced UART x2: Support SPI Master/Slave (UART 0/1 modules);
*3 Share with all Flash zone;
*4 CCP: Input Capture/Output Compare/PWM;

Automotive-Grade MCU: MGEQ1C064

Part No.	Operating Voltage	Flash ROM / Data RAM	Max. Operation Freq.	Timer (16-Bit) / IO	12-Bit ADC / ACMP	Features	PCA / PWM	WDT	ISP / IAP	Package
MGEQ1C064*1	2.4V~5.5V	64KB / 4KB	36MHz	5 + RTC / 44	16-CH / 3	UART*2x2,SPI,I²Cx2 S/W I²C,LIN,CRC16	1 / 8-CH	YES*2	7.5KB Max. / 63.5KB Max.*3	LQFP48

Passed the certification of AEC-Q100 Grade 2 (Support operation temperature: -40~105°C)
Support Code Protection
*1 Support SPI Master Mode;
*2 Support Watch Mode;
*3 Support S/W setting.

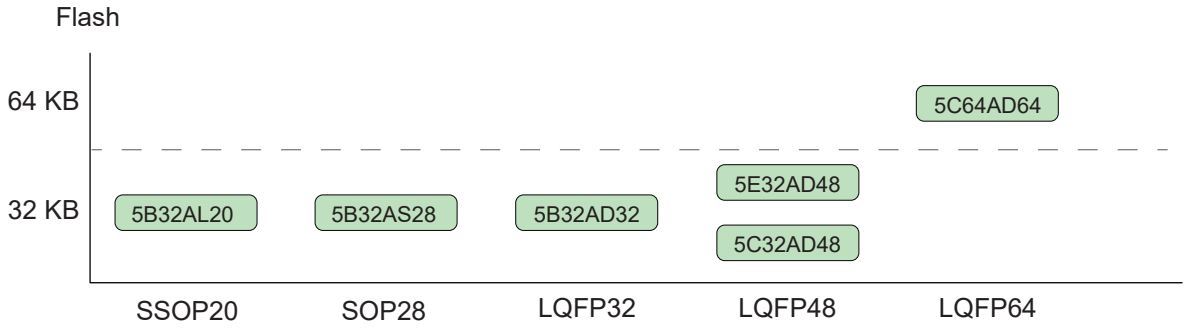
1T 8051 Wide Voltage Base Line

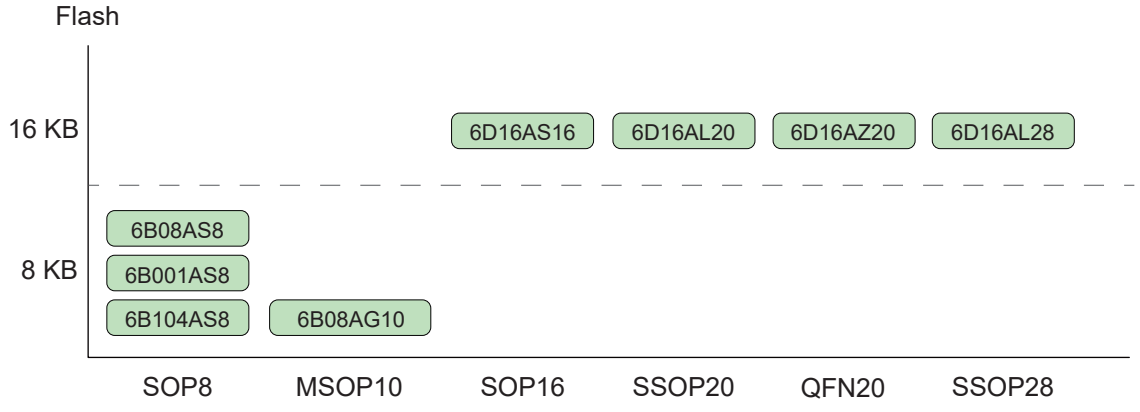


Part No.	Operating Voltage	Flash ROM / Data RAM	Max. Operation Freq.	Timer (16-Bit) / IO	12-Bit ADC / ACMP	Features	PCA / PWM	WDT	ISP / IAP	Package
MG82F6D17*1	1.8V~5.5V	16KB / 1KB	36MHz*5	4 + RTC / 5/17	8-CH / NA	UART*2 x2, SPI, I²C S/W I²C, LIN,CRC16	1 / 8-CH	YES*3	7.5KB Max. / 15.5KB Max.*4	SOP8 QFN20 SSOP20 TSSOP20
MG82F6B32*1	2.2V~5.5V	32KB+6KB / 2KB	25MHz*5	4 + RTC / 26	8-CH / NA	UART*2 x2, SPI, I²C CRC16, LED SEG x8	NA / 4-CH	YES*3	6KB	SOP28
MG82F6P32*1	1.8V~5.5V	32KB / 2KB	32MHz*5	6 + RTC / 25/29	8-CH / 2	OPAx2, PGA, PD en/decoder,DMA UART*2 x2, SPI, I²Cx2 S/W I²C, CRC16/32	2 / 8-CH	YES*3	7.5KB Max. / 31.5KB Max.*4	SSOP28 QFN32 LQFP32
MG82F6D32*1	1.8V~5.5V	32KB / 2KB	36MHz*5	4 + RTC / 29/44	10-CH / 3	UART*2 x2, SPI, I²Cx2 S/W I²C, LIN,CRC16	1 / 8-CH	YES*3	7.5KB Max. / 31.5KB Max.*4	QFN32 LQFP32 QFN48 LQFP48
MG82F6D64*1	1.8V~5.5V	64KB / 4KB	36MHz*5	5 + RTC / 44/59	16-CH / 3	UART*2 x4, SPI, I²Cx2 S/W I²C, LIN,CRC16	1 / 8-CH	YES*3	7.5KB Max / 63.5KB Max.*4	SSOP20 QFN48 LQFP48 LQFP64

<Models in the yellow grid will be launched soon.>
Support Code Protection
*1 Support M-LINK ICE, except SOP8;
*2 Support SPI Master Mode;
*3 Support Watch Mode;
*4 Support S/W setting;
*5 12MHz and 11.059MHz as internal RC oscillator, used 12MHz as default. Frequency deviation: at 25℃, under ±1% ; at -40℃~105℃, under ±2%.

1T 8051 Wide Voltage Base Line

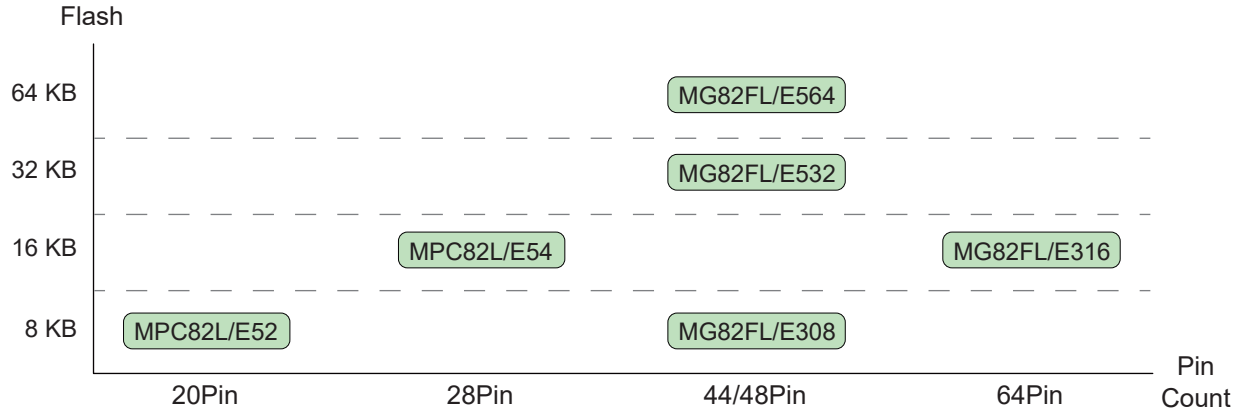




Part No.	Operating Voltage	Flash ROM / Data RAM	Max Operation Freq.	Timer (16-Bit) / IO	10-Bit ADC / ACMP	Features	PCA / PWM	WDT	ISP / IAP	Package
MG82F6B08[*1] MG82F6B001[*1] MG82F6B104[*1]	2.4V~5.5V	8KB / 1KB	16/22.12 MHz[*6]	3 + RTC / 6/8	6-CH / 1	UART[*2],SPI,LIN S/W I²C,I²C,CRC16	1 / 4-CH	YES[*3]	3.5KB Max. / EEPROM 512B IAP Default NA	SOP8 MSOP10
MG82F6D16[*1]	1.8V~5.5V	16KB / 1KB	32MHz[*5]	3 + RTC / 13/17/25	8-CH / 1	UART[*2],SPI,LIN I²C,S/W I²C,CRC16	1 / 6-CH	YES[*3]	7.5KB Max. / 15.5KB Max.[*4]	SOP16 SSOP20 QFN20 SSOP28
MG82F5B32[*1]	1.8V~5.5V	32KB / 2KB	32MHz[*5]	3 + RTC / 25/29	8-CH[*7] / NA	UART[*2]x2,SPI ISO-7816,LIN,I²C	1 / 8-CH	YES[*3]	4KB Max. / 31.5KB Max.[*4]	SSOP20 SOP28 LQFP32
MG82FG5C32[*1]	1.8V~5.5V	32KB / 2KB	32MHz	5 + RTC / 44	16-CH / 3	UART[*2]x4,SPI/QPI I²Cx2,LIN,ISO-7816x3	2 / 12-CH	YES[*3]	7.5KB Max. / 31.5KB Max.[*4]	LQFP48
MG82FG5C64[*1]	1.8V~5.5V	64KB / 4KB	32MHz[*5]	5 + RTC / 59	16-CH / 3	UART[*2]x4,SPI/QPI I²Cx2,LIN,ISO-7816x3	2 / 12-CH	YES[*3]	7.5KB Max. / 63.5KB Max.[*4]	LQFP64
MG82G5E32[*1]	1.8V~5.5V	32KB / 2KB	32MHz[*5]	4 + RTC / 44	8-CH / 2	UART[*2]x2,SPI,I²C S/W I²C,CRC16	1 / 8-CH	YES[*3]	7.5KB Max. / 31.5KB Max.[*4]	LQFP48

Support Code Protection;[*1] Support M-LINK ICE, except SOP8;[*2] Support SPI Master Mode;
[*3] Support Watch Mode;[*4] Support S/W setting;
[*5] 12MHz and 11.059MHz as internal RC oscillator, used 12MHz as default. Frequency deviation: at 25℃, under ±1% ; at -40℃~85℃, under ±2%;
[*6] 16MHz and 22.12MHz as internal RC oscillator. Frequency deviation: at 25℃, under ±2% ; at -40℃~85℃, under ±3.8%;
[*7] Factory default 10 Bit,200Ksps; Program adjustment 12 Bit,400Ksps.

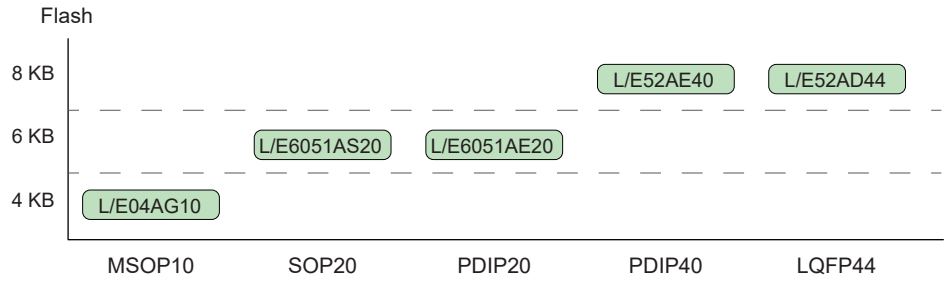
1T 8051 Single Voltage MCU



Part No.	Operating Voltage	Flash ROM / Data RAM	Max Operation Freq.	Timer (16-Bit) / IO	ADC / ACMP	Comm.	PCA / PWM	WDT	Code Protection	ISP / IAP	Package
MPC82L/E52	L:2.4V~3.6V E:4.5V~5.5V	8KB 256B	25MHz	2 15	8-Bit,8-CH NA	UART,SPI	1 2-CH	YES	YES	3KB Max. 7.5KB Max.	PDIP20 SOP20 TSSOP20
MPC82L/E54	L:2.4V~3.6V E:4.5V~5.5V	15.5KB 512B	25MHz	2 23	10-Bit,8-CH NA	UART,SPI	1 4-CH	YES	YES	3.5KB Max. 15KB Max.	PDIP28 SOP28 SSOP28
MG82FL/E532[*1]	L:2.4V~3.6V E:4.5V~5.5V	32KB 1280B	24MHz[*2]	3 45	10-Bit,8-CH NA	UARTx2,SPI	1 6-CH	YES[*4]	YES	4KB Max. 32KB Max.[*5]	LQFP44 LQFP48
MG82FL/E564[*1]	L:2.4V~3.6V E:4.5V~5.5V	64KB 1280B	24MHz[*2]	3 45	10-Bit,8-CH NA	UARTx2,SPI	1 6-CH	YES[*4]	YES	4KB Max. 63.5KB Max.[*5]	LQFP44 LQFP48
MG82FL/E308	L:2.4V~3.6V E:4.5V~5.5V	8KB 512B	24MHz[*3]	3 45	NA 1	UART	NA 1-CH	YES	YES	4KB Max. 8KB Max.[*5]	LQFP48
MG82FL/E316	L:2.4V~3.6V E:4.5V~5.5V	16KB 512B	24MHz[*3]	3 57	NA 1	UART	NA 1-CH	YES	YES	4KB Max. 15.5KB Max.[*5]	LQFP64

[*1] Support M-LINK ICE;
[*2] Used internal RC oscillator 22.118MHz as default. Frequency deviation: at 25°C,under ±1%; at-20°C ~50°C,under ±2% ; at-40°C ~85°C, under ±4%;
[*3] Internal RC oscillator 12MHz as default. Frequency deviation: at 25°C,under ±1%; at-20°C ~50°C,under ±2% ; at-40°C ~85°C, under ±4%;
[*4] Support Watch Mode;
[*5] Support S/W setting.

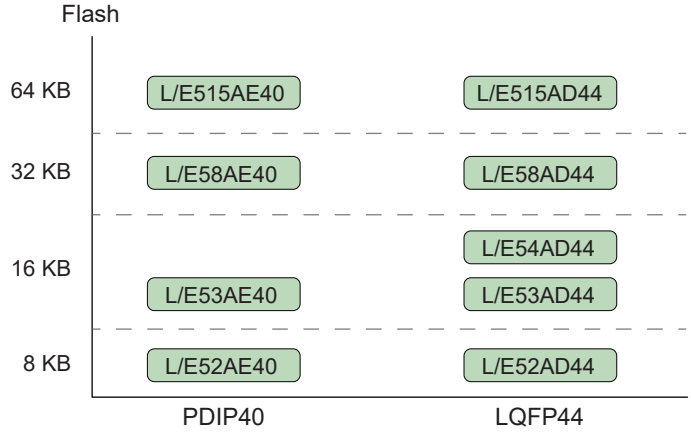
12T/6T 8051 Single Voltage with internal RC oscillator MCU



Part No.	Operating Voltage	Flash ROM / Data RAM	Max. Operation Freq.	Timer (16-Bit) / IO	ACMP	Comm.	PCA / PWM	WDT	ISP / IAP	Package
MG87FL/E52*	L:2.4V~3.6V E:4.5V~5.5V	8KB 256B	48MHz @ 12T 24MHz @ 6T	3 32/36	NA	UART	NA NA	YES	3.5KB Max. S/W setting	PDIP40 LQFP44
MG87FL/E6051*	L:2.4V~3.6V E:4.5V~5.5V	6KB 256B	48MHz @ 12T 24MHz @ 6T	2 17	1	UART	NA 1-CH	YES	3.5KB Max. S/W setting	PDIP20 SOP20
MG87FL/E04	L:2.4V~3.6V E:4.5V~5.5V	4KB 256B	22.118MHz/Int RC	2 7	1	UART	NA 1-CH	YES	1.5KB S/W setting	MSOP10

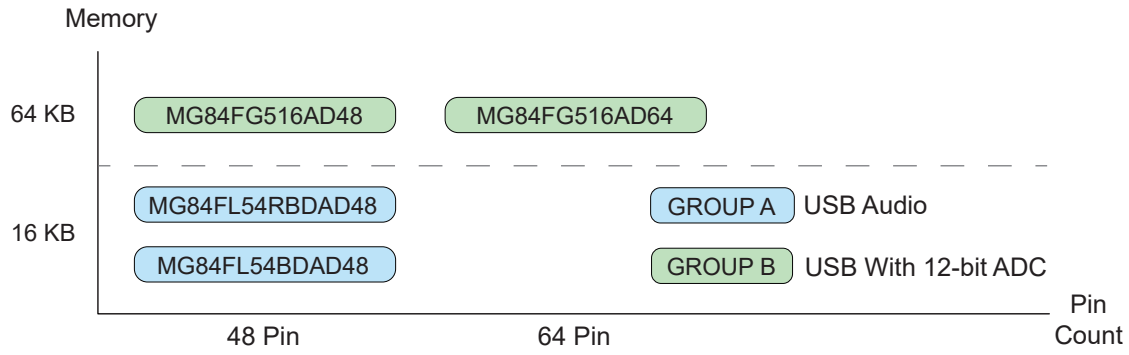
Support Code Protection
* Built-in internal RC oscillator with ±1% frequency deviation at 25°C. And there are 6 kinds of frequency selectable: 6M/11.059M/12M/22.118M/24M/24.576MHz.

12T/6T 8051 Single Voltage without internal RC oscillator MCU



Part No.	Operating Voltage	Flash ROM / Data RAM	Max. Operation Freq.	Timer (16-Bit) / IO	ACMP	Comm.	PCA / PWM	WDT	Code Protection	ISP / IAP	Package
MPC89L/E52	L:2.4V~3.6V E:4.5V~5.5V	8KB 512B	48MHz @ 12T 24MHz @ 6T	3 32/36	NA	UART	NA NA	YES	YES	4KB Max. 6KB Max.	PDIP40 LQFP44
MPC89L/E53	L:2.4V~3.6V E:4.5V~5.5V	15KB 512B	48MHz @ 12T 24MHz @ 6T	3 32/36	NA	UART	NA NA	YES	YES	4KB Max. NA	PDIP40 LQFP44
MPC89L/E54	L:2.4V~3.6V E:4.5V~5.5V	16KB 1280B	48MHz @ 12T 24MHz @ 6T	3 32/36	NA	UART	NA NA	YES	YES	4KB Max. 46KB Max.	LQFP44
MPC89L/E58	L:2.4V~3.6V E:4.5V~5.5V	32KB 1280B	48MHz @ 12T 24MHz @ 6T	3 32/36	NA	UART	NA NA	YES	YES	4KB Max. 30KB Max.	PDIP40 LQFP44
MPC89L/E515	L:2.4V~3.6V E:4.5V~5.5V	63KB 1280B	48MHz @ 12T 24MHz @ 6T	3 32/36	NA	UART	NA NA	YES	YES	4KB Max. NA	PDIP40 LQFP44

8051 USB MCU



MG84 (USB FS)

Part No.	Operating Voltage	Flash ROM / Data RAM	Max. Operation Freq.	Timer (16-Bit) / IO	ADC / ACMP	Comm.	PCA / PWM	WDT	End Points	ISP / IAP	Package
MG84FL54BD	2.7V~3.6V	16KB / 832B	24MHz	3 / 36	NA / NA	USB, UART, TWI(I²C), SPI	NA / NA	NA	4	4KB Max. / 15KB Max.	LQFP48
MG84FL54RBD	2.7V~3.6V	16KB / 256B	24MHz	3 / 31	NA / NA	USB, UART, TWI(I²C), SPI	NA / NA	NA	6	4KB Max. / 15KB Max.	LQFP48
MG84FG516*1	2.0V~5.5V	64KB / 4352B	32MHz*2	4 / 41/55	12-Bit, 8-CH / NA	USB, UARTx2, TWI(I²C), SPI	1 / 6-CH	YES*4	11	4KB Max. / 63.5KB Max.*5	LQFP48 / LQFP64

*1 Support M-LINK ICE;
*2 Used internal RC oscillator 12MHz as default. Frequency deviation: at 25℃, under ±1% ; at -40℃~85℃, under ±1.5% ; at USB activated, under ±0.25%;
*3 Support SPI Master Mode;
*4 Support Watch Mode;
*5 Support S/W setting.

Peripheral IC (USB Bridge)

Part No.	Operating Voltage	USB Speed	Function	Features	Driver	Package
MA111	2.4V~5.5V	Full Speed*1	USB HID to Serial Bridge	UART, SPI Master, TWI(I²C) Master, GPIO	FREE	SOP16, QFN16
MA112	3.0V~5.5V	Full Speed*1	USB to UART Data Bridge MS Windows Driver Supported	Virtual COM (TXD/RXD)	OS	SOP16, QFN16
MA113	3.0V~5.5V	Full Speed*1	USB Data Bridge for UART, RS-232 Modem signal, RS-485 MS Windows Standard Driver supported	Virtual COM(TXD/RXD), RS-232 Modem Signals RS-485 Transceiver Control	OS	SOP16, QFN16

*1 Built in internal RC oscillator 12MHz as default. Frequency deviation: at 25℃, under ±1% ; at -40℃~85℃, under ±1.5%, USB online mode ±0.25%.

Peripheral IC (Delta-Sigma ADC)

Part No.	Operating Voltage	Power(mA)	ENOB (Bits)	ADC Channel (diff)	AD Rate (Hz)	PGA	Features	Package
MAD2402	2.5V~5.5V	0.7	19.8	1	1280	128	SIF (Serial Interface)	SOP8, DIP8
MAD2418	5V	7	23	4	30K	64	SPI	SSOP28W
MAD2404	2.7V~5.3V	1	22	2	80	128	SIF (Serial Interface)	TSSOP24

<Models in the yellow grid will be launched soon.>

Peripheral IC (LIN /CAN Transceiver)

Part No.	Data Transmission Standard	Operating Voltage	Data Rate (bps)	LDO	Operating Temperature (°C)	Package
MLT1021	LIN2.x	5V~27V	20K	NA	-40 ~ 105	SOP8
MLT1021R	LIN2.x	5V~27V	20K	3.3/5V	-40 ~ 105	SOP10
MLT1021S	LIN2.x	5V~27V	20K	NA	-40 ~ 105	SOP8
MCT1042	CAN2.0x/CAN-FD	3.3V~5V	5M	NA	-40 ~ 125	SOP8

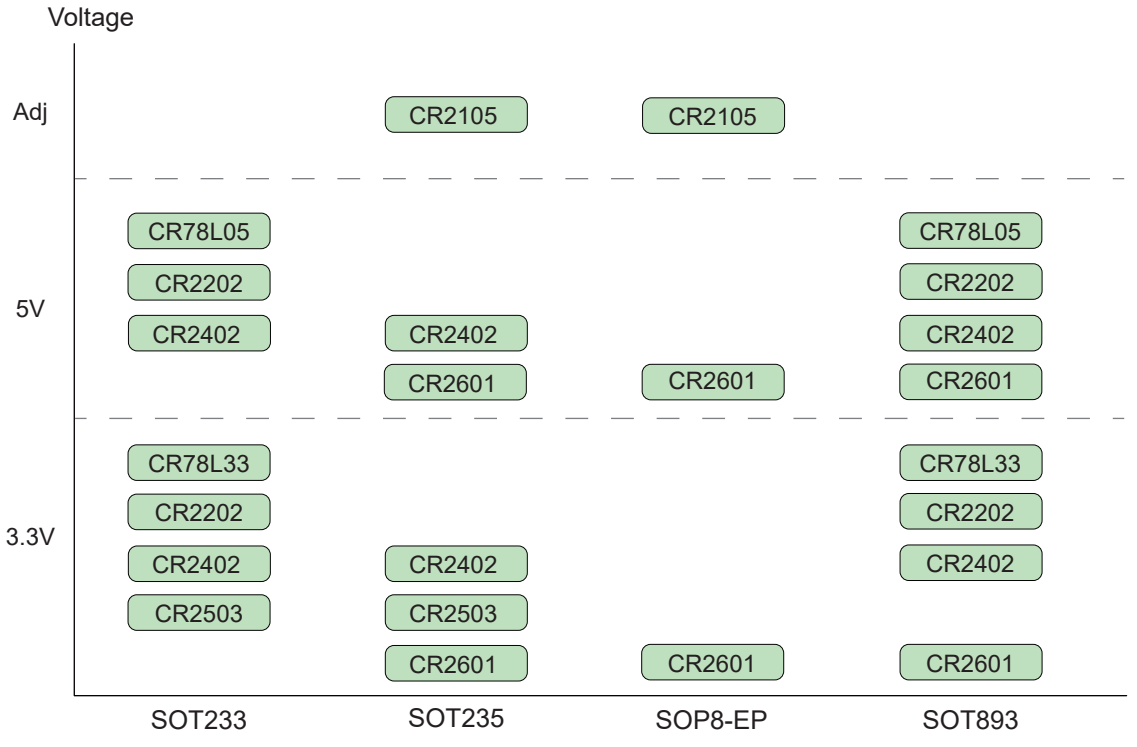
<Models in the yellow grid will be launched soon.>

Power IC (BMS)

Part No.	Type	Number of series cells	Battery chemistry	Operating Voltage	Features	Package
MSE03GM1	Gauge	3	NCA	8.1V ~ 12.75V	UART, I²C	LQFP48
MSE01PC1	Battery Passport	1	NCM, NCA, LTO, $LiFePO_4$	1.8V ~ 5V	NFC, UART	QFN20
MSE06GC1	Gauge	6	NCA, $LiFePO_4$	6V ~ 30V	I²C	QFN32

<Models in the yellow grid will be launched soon.>

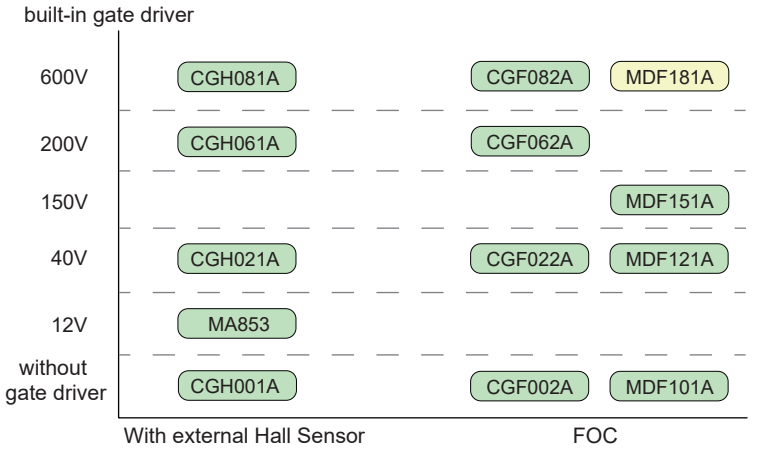
Power IC (LDO)



Part No.	Min. V_{IN}(V)	Max. V_{IN}(V)	I_{OUT} (mA)	V_{OUT} (V)	I_Q (uA)	$\triangle V_{LINE}$ (%)	$\triangle V_{LOAD}$ (%)	PSRR @1KHz(dB)	C_{OUT} (uF)	EN	Package
CR78L33 CR78L05	7	30	100	3.3/5	300	0.3	0.3	84	0.1	NA	SOT233 SOT893
CR2105	7	100	50	Adj*1	23	0.18	1.25	65	10	Yes	SOT235 SOP8-EP
CR2202	2.7	24	150	3.3/5	1.5	0.06	0.15	80	1	NA	SOT233 SOT893
CR2402	2.7	40	250	3.3/5	1.5	0.06	0.6	80	1	Yes	SOT233 SOT235 SOT893
CR2503	2.5	6	300	3.3	0.5	0.6	1	60	1	Yes	SOT233 SOT235
CR2601	2.7	60	150	3.3/5	2.8	0.01	1.5	60	1	Yes	SOT235 SOT893 SOP8-EP

*1 Adj: means the voltage can be adjusted.

BLDC



8051 core BLDC

Part No.	Mode	Gate Driver		V_{IN}	LDO	VDD	Max Freq.	ADC 10-Bit	Capture 16-Bit	OPA*1	Operation Temp.	Package
		Voltage	Type									
CGH001A	Hall	NA		5V	NA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	SSOP28 QFN32
CGH021A	Hall	40V	P+N	40V	5V/30mA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	SSOP28W QFN40
CGH061A	Hall	200V	N+N	15V	5V/30mA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	LQFP48
CGH081A	Hall	600V	N+N	15V	5V/30mA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	LQFP48
CGF002A	FOC	NA		5V	NA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	LQFP48
CGF022A	FOC	40V	P+N	40V	5V/30mA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	LQFP48
CGF062A	FOC	200V	N+N	15V	5V/30mA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	QFN40 LQFP48
CGF082A	FOC	600V	N+N	15V	5V/30mA	4.5~5.5V	48MHz	8 CH	1 CH	1 set	-40℃~105℃	LQFP48

*1 OPA: For peripheral use.

Arm® Cortex®-M0 BLDC

Part No.	Mode	Gate Driver		V_{IN}	LDO	VDD	Max Freq.	ADC 12-Bit	Capture 16-Bit	OPA*1	Operation Temp.	Package
		Voltage	Type									
MDF101A	FOC	NA		5V	NA	2.5~5.5V	60MHz	10 CH	5 CH	2 set	-40℃~105℃	TSSOP28 QFN32
MDF121A	FOC	40V	P+N	40V	5V/30mA	2.5~5.5V	60MHz	10 CH	5 CH	2 set	-40℃~105℃	QFN32
MDF151A	FOC	150V	N+N	21V 13V	12V/300mA 5V/30mA	2.5~5.5V	60MHz	10 CH	5 CH	2 set	-40℃~105℃	QFN32 QFN40 LQFP48
MDF181A	FOC	600V	N+N	15V	5V/30mA	2.5~5.5V	60MHz	10 CH	5 CH	2 set	-40℃~105℃	LQFP48

<Models in the yellow grid will be launched soon.> *1 OPA: For Current Detection

ASIC BLDC

Part No.	Mode	Gate Driver		V_{IN}	LDO	VDD	Max Freq.	ADC 12-Bit	Capture 16-Bit	OPA*1	Operation Temp.	Package
		Voltage	Type									
MA853	180°/150° Sine-wave	12V	N+N	9~16V	5V	2.0~5.5V	48MHz	2 CH	2 CH	2 set	-40℃~105℃	QFN32

Package Type

Code	Description	Code	Description	Code	Description
AB	COB	AC	LQFP (10mm x 10mm)	AD	LQFP (7mm x 7mm)
AE	PDIP	AF	PQFP	AG	MSOP
AL	SSOP	AM	TQFP	AP	PLCC
AS	SOP	AT	TSSOP	AY	QFN (5mm x 5mm)
HS	SOP (Heat Sink)	AK	TOxxx	AZ	QFN (4mm x 4mm)
AR	SOT	AI	Ink die	AN	DFN
AW	Wafer	WL	SSOPW (209mil Outline Dimensions)	AH	DICE

Ordering Information - M0

MG 32 F 0 2A 128 AD 48

megawin

Device family
32 = 32 bit MCU

Application family
F = Mainstream
L = Low power

MCU series
0 = Arm® Cortex®-M0

Device series
A = Base Line
V = Value Line
P = Cost-Efficient Line
U = USB Line
C/K/H/N = LCD Line
T = Touch Line

Program memory size
128 = 128 Kbyte
064 = 64 Kbyte
032 = 32 Kbyte
016 = 16 Kbyte

Package type
AS = SOP
AD = LQFP
AL = SSOP
AT = TSSOP
AY = QFN(5mm x 5mm)
AZ = QFN(4mm x 4mm)

Pin count
80 = 80 pins
64 = 64 pins
48 = 48 pins
32 = 32 pins
20 = 20 pins

Ordering Information - M0+/M3

MG 32 F 1 0 3 C B T 6

megawin

Device family
32 = 32 bit MCU

Application family
F = Mainstream
L = Low Power

MCU series
1 = Arm® Cortex®-M3
0 = Arm® Cortex®-M0+

Pin count
V = 100 pins
R = 64 pins
C = 48 pins
K = 32 pins
F = 20 pins

Flash memory size
C = 256 Kbyte
B = 128 Kbyte
9 = 96 Kbyte
8 = 64 Kbyte

Package type
T = LQFP
P = TSSOP
U = QFN

Temperature
6 = -40°C to 85°C
7 = -40°C to 105°C

Ordering Information - Automotive MCU

MG E Q1 C 064 AD 48

megawin

MCU type
E = 8 bit
T = 32 bit

Automotive Grade
Q = AEC-Q series
1 = Product series

Temperature
A = -40°C to 150°C
B = -40°C to 125°C
C = -40°C to 105°C

Flash memory size

Package type
AD = LQFP

Pin count
48 = 48 pins

MG Website

LinkedIn

www.megawin.com.tw

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