

FREESCALE Kinetis Cortex M-4 MCUs



RoHS Compliant This product is RoHS compliant.

FREEDOM DEVELOPMENT PLATFORM

Features:

- KL25Z128VLK4—Cortex-M0+ MCU with: 128KB flash, 16KB SRAM Up to 48MHz operation USB full-speed controller
- OpenSDA—sophisticated USB debug interface
- I2S interface for direct audio interfacing with an external ADC/DAC
- Tri-color LED
- Capacitive touch "slider"
- Freescale MMA8451QR1 accelerometer
- Flexible power supply options
- Power from either on-board USB connector
- 5-12V Vin from IO header
- 5V provided to IO header
- 3.3V to or from IO header
- Reset button
- Expansion IO compatible with the Arduino Uno form factor



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Description	Price Each
841-FREEDOM-KL25Z	FRDM-KL25Z	Kinetis L Series Arm Cortex M0+ Development Board	12.95

KINETIS K SERIES ARM CORTEX-M4 MICROCONTROLLERS

The Kinetis portfolio of microcontrollers pairs the efficient ARM® Cortex™ -M4 core with cutting-edge, low-power design techniques. The result is the industry's lowest power Cortex-M4 based MCU solutions.

- New Cortex-M4 core with single cycle DSP instructions paired with Freescale's efficient platform
- 90nm Thin Film Storage (TFS) process technology allows dynamic power to be reduced to as low as 200µA/MHz
- Special design techniques used to reduce leakage allowing lower power standby modes
- Flexible mode controller enables 10 different modes of operation which allows power reduction based on the application requirements
- MCU and many peripherals are able to operate down to 1.71V with full analog and flash capabilities
- MCU architecture supports adjustable clocking for peripherals and the core enabling quick changes to MCU clocks and different clock speeds
- Separate power supply for the Real Time Clock (RTC) allows low power time keeping with less than 1µA power consumption

Kinetis K10 - Baseline MCUs

- Serial Interface Type: UART, SPI, I2C, I2S, CAN
- Memory Protection Unit (MPU)
- Real-Time Clock
- Supply Voltage: 1.71 to 3.6V
- Touch Sensing Interface
- Watchdog OSC/Timer
- Analog Comparator

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Core Operating Freq. Max (MHz)	Internal Flash (KB)	Internal RAM (KB)	A/D Converter (bits/channels)	D/A Converter (bits)	I/O Pins	Price Each		
									1	25	100
841-MK10DN32VFM5	MK10DN32VFM5	QFN-32	50	32	2	-	-	24	2.03	1.58	1.54
841-MK10DX256VLL7	MK10DX256VLL7	LQFP-100	72	256	64	16/2	12	70	9.19	8.42	7.09
841-MK10DX256VLK7	MK10DX256VLK7	LQFP-80	72	256	64	16/2	12	56	8.97	8.22	6.92
841-MK10DX256VLH7	MK10DX256VLH7	LQFP-64	72	256	32	16/2	12	44	8.69	7.96	6.71
841-MK10DN512ZVLQ10	MK10DN512ZVLQ10	LQFP-144	100	512	128	16/44	12	104	9.95	9.12	7.68
841-MK10DX256ZVMD10	MK10DX256ZVMD10	MAP-144	100	512	64	16/44	12	104	8.76	8.41	7.97
841-MK10DN512VLQ10	MK10DN512VLQ10	LQFP-144	100	512	128	16/1	6	104	10.82	8.45	8.22
841-MK10DN512VMD10	MK10DN512VMD10	MAPBGA-144	100	512	128	16/1	6	104	10.90	8.52	8.28
841-MK10DN512ZVLK10	MK10DN512ZVLK10	LQFP-80	100	512	128	16/1	6	56	10.41	8.13	7.91
841-MK10DN512ZVLL10	MK10DN512ZVLL10	LQFP-100	100	512	128	16/1	6	70	9.06	8.26	7.35
841-MK10DN512ZVMD10	MK10DN512ZVMD10	MAPBGA-144	100	512	128	16/1	6	104	10.03	9.19	7.74
841-MK10DX256VLQ10	MK10DX256VLQ10	LQFP-144	100	256	64	16/1	6	104	12.44	11.39	9.60
841-MK10DX256VMD10	MK10DX256VMD10	MAPBGA-144	100	256	64	16/1	6	104	12.54	11.49	9.68
841-MK10DX256ZVLQ10	MK10DX256ZVLQ10	LQFP-144	100	256	128	16/2	12	104	9.34	8.56	7.21
841-MK10DX256ZVQL10R	MK10DX256ZVQL10R	LQFP-144	100	256	64	16/2	12	104	9.34	8.56	7.21

Kinetis K20 - USB MCUs

- Serial Interface Type: UART, SPI, I2C, I2S, CAN, USB
- Touch Sensing Interface
- Watchdog OSC/Timer
- Analog Comparator
- Memory Protection Unit (MPU)
- Real-Time Clock
- Supply Voltage: 1.71 to 3.6V

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Core Operating Freq. Max (MHz)	Internal Flash (KB)	Internal RAM (KB)	A/D Converter (bits/channels)	D/A Converter (bits)	I/O Pins	Price Each		
									1	25	100
841-MK20DN128VLF5	MK20DN128VLF5	LQFP-48	50	128	16	16/1	6	29	6.00	5.76	5.45
841-MK20DX128VLF5	MK20DX128VLF5	LQFP-48	50	128	16	16/1	6	29	5.82	5.24	4.71
841-MK20DX256VLL7	MK20DX256VLL7	LQFP-100	72	256	64	16/48	12	68	9.26	8.58	8.00
841-MK20DX256VLK7	MK20DX256VLK7	LQFP-80	72	256	64	16/48	12	52	9.04	8.38	7.81
841-MK20DX256VLH7	MK20DX256VLH7	LQFP-64	72	256	32	16/48	12	40	8.80	8.16	7.60
841-MK20DN512ZVLL10	MK20DN512ZVLL10	LQFP-100	100	512	128	16/35	12	66	9.58	8.83	8.32
841-MK20DN512ZVLQ10	MK20DN512ZVLQ10	LQFP-144	100	512	128	16/44	12	100	9.78	8.81	7.92
841-MK20DX128ZVLQ10	MK20DX128ZVLQ10	LQFP-144	100	256	32	16/44	12	100	10.64	9.87	9.20
841-MK20DX256ZVLK10	MK20DX256ZVLK10	LQFP-80	100	512	64	16/28	12	52	10.83	10.20	8.29
841-MK20DX256ZVMD10	MK20DX256ZVMD10	MAP-144	100	512	64	16/44	12	100	11.01	9.65	8.62
841-MK20DN512ZVLK10	MK20DN512ZVLK10	LQFP-80	100	512	128	16/1	6	52	12.58	12.07	11.44
841-MK20DN512ZVMC10	MK20DN512ZVMC10	MAPBGA-121	100	512	128	16/1	6	86	13.00	11.71	10.52
841-MK20DN512ZVMD10	MK20DN512ZVMD10	MAPBGA-144	100	512	128	16/1	6	100	13.14	11.83	10.64
841-MK20DX256ZVLL10	MK20DX256ZVLL10	LQFP-100	100	256	64	16/2	12	66	11.03	10.38	8.43
841-MK20DX256ZVLQ10	MK20DX256ZVLQ10	LQFP-144	100	256	64	16/2	12	100	11.27	10.60	8.62

Kinetis K30 - Segment LCD MCUs

- Serial Interface Type: UART, SPI, I2C, I2S, CAN
- Segment Display Controller
- LCD Controller
- Touch Sensing Interface
- Memory Protection Unit (MPU)
- Watchdog OSC/Timer
- Real-Time Clock
- Analog Comparator
- Supply Voltage: 1.71 to 3.6V

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Core Operating Freq. Max (MHz)	Internal Flash (KB)	Internal RAM (KB)	A/D Converter (bits/channels)	D/A Converter (bits)	I/O Pins	Price Each		
									1	25	100
841-MK30DN512ZVLK10	MK30DN512ZVLK10	LQFP-80	50	512	128	16/1	6	56	12.62	11.45	10.25
841-MK30DN512ZVLQ10	MK30DN512ZVLQ10	LQFP-144	50	512	128	16/1	6	102	9.82	8.94	7.97
841-MK30DX256ZVLQ10	MK30DX256ZVLQ10	LQFP-144	100	512	64	16/44	12	102	9.95	9.12	7.68

Kinetis K40 - USB and Segment LCD MCUs

- Serial Interface Type: UART, SPI, I2C, I2S, CAN, USB
- Segment Display Controller
- LCD Controller
- Touch Sensing Interface
- Memory Protection Unit (MPU)
- Watchdog OSC/Timer
- Real-Time Clock
- Analog Comparator
- Supply Voltage: 1.71 to 3.6V

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Core Operating Freq. Max (MHz)	Internal Flash (KB)	Internal RAM (KB)	A/D Converter (bits/channels)	D/A Converter (bits)	I/O Pins	Price Each		
									1	25	100
841-MK40DX256VLL7	MK40DX256VLL7	LQFP-100	72	256	64	16/15	12	68	11.73	9.68	-
841-MK40DX256VLK7	MK40DX256VLK7	LQFP-80	72	256	64	16/15	12	52	11.50	9.48	-
841-MK40DX256VLH7	MK40DX256VLH7	LQFP-64	72	256	32	16/15	12	40	12.13	10.01	-
841-MK40DN512ZVLQ10	MK40DN512ZVLQ10	LQFP-144	100	512	128	16/44	12	-	10.36	9.28	8.36
841-MK40DN512VLQ10	MK40DN512VLQ10	LQFP-144	100	512	128	16/2	12	98	14.86	13.62	11.47
841-MK40DN512ZVLL10	MK40DN512ZVLL10	LQFP-100	100	512	128	16/2	12	64	10.94	10.02	8.44
841-MK40DN512ZVMD10	MK40DN512ZVMD10	MAPBGA-144	100	512	128	16/2	12	98	12.23	10.42	10.09
841-MK40DX128ZVLQ10	MK40DX128ZVLQ10	LQFP-144	100	128	32	16/2	12	98	13.38	11.40	11.03
841-MK40DX256VLQ10	MK40DX256VLQ10	LQFP-144	100	256	64	16/2	12	98	15.28	12.60	-
841-MK40DX256ZVLQ10	MK40DX256ZVLQ10	LQFP-144	100	256	64	16/2	12	98	15.28	12.60	-

Kinetis K50 - Measurement MCUs

- Serial Interface Type: UART, SPI, I2C, I2S, CAN
- LCD Controller: 320 segments
- Memory Protection Unit (MPU)
- Touch Sensing Interface
- Watchdog OSC/Timer
- Real-Time Clock
- Analog Comparator
- Supply Voltage: 1.71 to 3.6V

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Core Operating Freq. Max (MHz)	Internal Flash (KB)	Internal RAM (KB)	A/D Converter (bits/channels)	D/A Converter (bits)	I/O Pins	Price Each		
									1	25	100
841-MK50DX256CLL7	MK50DX256CLL7	LQFP-100	72	256	32	16/2	12	68	12.31	11.76	11.39
841-MK50DX256CLK7	MK50DX256CLK7	LQFP-80	72	256	32	16/2	12	52	12.09	11.55	11.18
841-MK50DX128CLH7	MK50DX128CLH7	LQFP-64	72	128	32	16/2	12	40	10.08	9.63	9.32
841-MK50DN512ZCLQ10	MK50DN512ZCLQ10	LQFP-144	100	512	128	16/2	12	96	15.66	14.96	14.48
841-MK51DN512ZCLQ10	MK51DN512ZCLQ10	LQFP-144	100	512	128	16/2	12	94	16.50	15.77	15.27
841-MK52DN512ZCLQ10	MK52DN512ZCLQ10	LQFP-144	100	512	128	16/2	12	96	16.68	15.94	15.43
841-MK53DN512ZCLQ10	MK53DN512ZCLQ10	LQFP-144	100	512	128	16/2	12	94	17.53	16.75	16.22
841-MK53DX256CLQ10	MK53DX256CLQ10	LQFP-144	100	256	64	16/2	12	94	16.68	15.94	15.43