

# STMICROELECTRONICS EEPROMs & Non-Volatile RAMs



Products may be RoHS compliant. Check mouser.com for RoHS status.

## DUAL INTERFACE EEPROMS

Dual Interface EEPROMs from STMicroelectronics are an innovative family of memories that provides new features and capabilities. The EEPROM memory bank can be accessed either by a standard I<sup>2</sup>C interface or by an ISO 15693 RF interface. The ISO 15693 RF interface is based on a passive RFID technology that does not require a battery or power to operate, as it gets both the energy and the data stream from the RF reader.



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	STMicroelectronics Part No.	Package Type	Density	Interface		Clock Freq. (Max)(kHz)	Temp. Range (°C)	Supply Voltage (V)	Price Each		
				I <sup>2</sup> C	RF - ISO				1	10	100
<b>Surface Mount</b>											
511-M24LR04E-RMN6T/2	M24LR04E-RMN6T/2	SO-8	4K	2-Wire	15693/18000-3	400	-40 to +85	5.5	1.08	.96	.755
511-M24LR04E-RDW6T/2	M24LR04E-RDW6T/2	TSSOP-8	4K	2-Wire	15693/18000-3	400	-40 to +85	5.5	1.08	.96	.755
511-M24LR64-RMN6T/2	M24LR64-RMN6T/2	SO-8	64K	2-Wire	15693/18000-3	400	-40 to +85	5.0	1.79	1.65	1.43
511-M24LR64-RDW6T/2	M24LR64-RDW6T/2	TSSOP-8	64K	2-Wire	15693/18000-3	400	-40 to +85	5.0	1.79	1.65	1.43
511-M24LR16E-RMC6T/2	M24LR16E-RMC6T/2	MLP-8	64K	2-Wire	15693/18000-3	400	-40 to +85	5.5	1.35	1.16	.954
511-M24LR16E-RMN6T/2	M24LR16E-RMN6T/2	SO-8	16K	2-Wire	15693/18000-3	400	-40 to +80	5.5	1.45	1.29	1.09
511-M24LR16E-RDW6T/2	M24LR16E-RDW6T/2	TSSOP-8	16K	2-Wire	15693/18000-3	400	-40 to +80	5.5	1.45	1.29	1.09

## EVALUATION KITS AND BOARDS

ST provides tools for system designers to help determine the remote operating distance they can expect from the device and the impact of the reader antenna, as well as impact of reader and IC antenna sizes on the overall system performance. They also allow evaluation of interaction of I<sup>2</sup>C and RF modes, entire memory, partitioning, lock mechanisms and password protection. All tools come with an I<sup>2</sup>C programmer, an RF reader, two different M24LR64 reference antennas with I<sup>2</sup>C connector. Connections to host computers are USB based.



MOUSER STOCK NO.	STMicroelectronics Part No.	Description	Price Each
511-DEMOKIT-M24LR-A	DEMOKIT-M24LR-A	Demonstration kit for M24LR series dual interface EEPROMs	468.75
511-DEVKIT-M24LR-A	DEVKIT-M24LR-A	Development (advanced evaluation) kit for M24LR series	937.50
511-ANT1-M24LR16E	ANT1-M24LR16E	45mmx75mm Antenna reference board for the M24LR series dual interface EEPROMs	21.50
511-ANT2-M24LR16E	ANT2-M24LR16E	20mmx40mm Antenna reference board for the M24LR series dual interface EEPROMs	21.50
511-ANT1-M24LR-A	ANT1-M24LR-A	45mmx75mm Antenna reference board for the M24LR64-R series Dual Interface EEPROMs	15.60
511-ANT2-M24LR-A	ANT2-M24LR-A	45mmx75mm Antenna reference board for the M24LR64-R series Dual Interface EEPROMs	15.60
511-ANT3-M24LR-A	ANT3-M24LR-A	45mmx75mm Antenna reference board for the M24LR64-R series Dual Interface EEPROMs	15.60
511-ANT4-M24LR-A	ANT4-M24LR-A	45mmx75mm Antenna reference board for the M24LR64-R series Dual Interface EEPROMs	15.60
511-ANT5-M24LR-A	ANT5-M24LR-A	45mmx75mm Antenna reference board for the M24LR64-R series Dual Interface EEPROMs	15.60
511-ROBOT-M24LR16E	ROBOT-M24LR16E	Evaluation board for the M24LR series dual interface EEPROMs	34.95

## ZEROPOWER® NON-VOLATILE RAMS

ZEROPOWER® NVRAMs combine Low Power SRAMs and Automatic Battery Switchover and Write Protect circuits to implement Non-Volatile RAMs. They can be used just like standard SRAMs, but retain their contents when power is removed. Densities range from 16Mbits down to 16Kbits.

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	STMicroelectronics Part No.	Package Type	Density	Organization	Access Time (ns)	Temp. Range (°C)	Supply Voltage (V)	Nominal Battery Cap. (mAh)	Price Each		
									1	10	100
<b>Thru Hole</b>											
511-M48Z0270PC1	M48Z02-70PC1	PCDIP-24	16K	2Kx8	70	0 to +70	4.75 to 5.5	-	9.19	8.26	6.79
511-M48Z0215PC1	M48Z02-150PC1	PCDIP-24	16K	2Kx8	150	0 to +70	4.75 to 5.5	-	9.19	8.26	6.79
511-M48Z1215PC1	M48Z12-150PC1	PCDIP-24	16K	2Kx8	150	0 to +70	4.5 to 5.5	-	9.30	8.05	6.64
511-M48Z0810PC1	M48Z08-100PC1	PCDIP-28	64K	8Kx8	100	0 to +70	4.75 to 5.5	-	15.03	13.66	11.61
511-M48Z1810PC1	M48Z18-100PC1	PCDIP-28	64K	8Kx8	100	0 to +70	4.5 to 5.5	-	16.46	14.96	12.71
511-M48Z58Y70PC1	M48Z58Y-70PC1	PCDIP-28	64K	8Kx8	70	0 to +70	4.5 to 5.5	-	10.21	9.38	8.20
511-M48Z5870PC1	M48Z58-70PC1	PCDIP-28	64K	8Kx8	70	0 to +70	4.75 to 5.5	-	11.58	11.15	9.48
511-M48Z35Y70PC1	M48Z35Y-70PC1	PCDIP-28	256K	32Kx8	70	0 to +70	4.5 to 5.5	-	16.37	14.17	11.69
511-M48Z3570PC1	M48Z35-70PC1	PCDIP-28	256K	32Kx8	70	0 to +70	4.75 to 5.5	-	16.37	14.17	11.69

Snapat Battery and Crystal for Realtime Clocks		Description										
511-M4Z28BR00SH1	M4Z28-BR00SH1	SH-28	For SOH-28 Zeropower SRAMs				0 to +70	-	48.0	4.11	3.98	3.63

## TIMEKEEPER® NON-VOLATILE RAMS

TIMEKEEPER® NVRAMs build on ST's ZEROPOWER® NVRAMs by adding non-volatile Real-Time Clocks. The Automatic Battery Switchover and Write Protect circuits are extended to the RTC section where counter-registers keep track of year, month, day, date, hours, minutes, and seconds. A low-power 32KHz oscillator provides the timing. It is optimized to draw only a tiny amount of current - as low as 40nA - so it adds only a small additional load to the battery. The RTC registers are mapped into the LPSRAM. Eight to 16 bytes of the LPSRAM are replaced by the RTC registers. The day, date, and time are read and written just like RAM locations.

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	STMicroelectronics Part No.	Package Type	Density	Organization	Access Time (ns)	Temp. Range (°C)	Supply Voltage (V)	Nominal Battery Cap. (mAh)	Price Each		
									1	10	100
<b>Thru Hole</b>											
511-M48T0270PC1	M48T02-70PC1	PCDIP-24	16K	2Kx8	70	0 to +70	4.75 to 5.5	-	10.98	10.07	9.69
511-M48T5870PC1	M48T58-70PC1	PCDIP-28	64K	8Kx8	70	0 to +70	4.75 to 5.5	-	17.78	17.14	15.87
511-M48T0810PC1	M48T08-100PC1	PCDIP-28	64K	8Kx8	100	0 to +70	4.75 to 5.5	-	16.48	14.35	12.97
511-M48T1810PC1	M48T18-100PC1	PCDIP-28	64K	8Kx8	100	0 to +70	4.5 to 5.5	-	14.08	12.95	11.91
511-M48T35Y70PC1	M48T35Y-70PC1	PCDIP-28	256K	32Kx8	70	0 to +70	4.5 to 5.5	-	14.99	13.57	12.68
511-M48T3570PC1	M48T35-70PC1	PCDIP-28	256K	32Kx8	70	0 to +70	4.75 to 5.5	-	19.58	17.67	14.93

Next Generation Timekeeper® Non-Volatile RAMs		Description									
511-M41S187WSS6F	M41S187WSS6F	SSOP-20	Serial RTC with NVRAM Supervisor			-40 to +85	3.0 to 3.6	-	6.63	5.50	5.00
511-M41T93ZMY6F	M41T93ZMY6F	SOX-18	Serial SPI Bus w/Battery Switchover			-40 to +85	2.38 to 5.5	-	4.64	4.12	3.57

Snapat Battery and Crystal for Timekeeper Non-Volatile RAMs		Description									
511-M4T28BR12SH1	M4T28-BR12SH1	SH-28	For SOH-28 and 44 realtime clocks			0 to +70	-	48	3.88	3.76	2.91
511-M4T32BR12SH1	M4T32-BR12SH1	SH-28	For SOH-28 and 44 realtime clocks			0 to +70	-	120	5.06	4.75	4.28
511-M4T32-BR12SH6	M4T32-BR12SH6	SH-28	For SOH-28 and 44 realtime clocks			-40 to +85	-	120	6.21	6.02	5.25

