



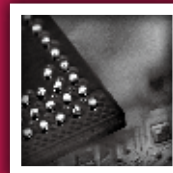
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PRODUCT SELECTION GUIDE

June 2010



SERIAL FLASH MEMORY

SERIAL FLASH

Macronix offers industry standard Serial Flash products from 512Kb to 256Mb densities and also provides backward compatible high performance Serial Flash MXSMIO® family and MXSMIO® Duplex (DTR) family as below:

MX25xxx05/06 – Standard Serial Interface Series

The MX25xxx05 and MX25xxx06 series provide Standard Serial Interface x1 or x2 I/O [Single I/O or Dual I/O] at single 3V or 2.5V power-supply voltage. These products are offered with 4KB sectors and 64KB blocks, ranging from 512Kb to 128Mb density.

MX25xxx08 – Unique ID Series

The MX25xxx08 series provides 512-bit secured area, independent from main array, to store unique ID data for system identifier. These products are offered from 16Mb to 64Mb density.

MX25xxx25/ 26 – Default Lock Protection Series

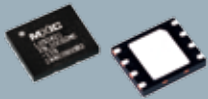
The default lock protection series is optimized for Parameter Protection applications. These products utilize the BP volatile protection bits to protect selected boot areas of memory against misuse of program and erase instructions in the protected area.

MX25xxx35/36/45 – MXSMIO® (Multi-I/O) & MXSMIO® Duplex (DTR) Series

Macronix Serial Multi-I/O (MXSMIO®) Flash provides two kinds of different Multi-I/O interfaces. One of them is MX25xxx35 series, which offers Multi-in / Multi-out interface. The other is MX25xxx36 series, which offers Single-in / Multi-out interface.

Both series are available on Quad I/O operation which quadruples the read performance of systems for high-end consumer applications. The MX25xxx35 and MX25xxx36 families are provided from 4Mb to 256Mb.

Furthermore, the MXSMIO® Duplex family, MX25xxx45 series, offers Quad I/O interface with Double Transfer Rate (DTR) mode operation providing fast data transfer rate up to 400MHz, which makes it the fastest Serial Flash in the industry. MXSMIO®Duplex family is provided from 64Mb to 128Mb density with independent block lock protection on boot sector .



Serial Flash Portfolio Table

		512Kb	1Mb	2Mb	4Mb	8Mb	16Mb	32Mb	64Mb	128Mb	256Mb
3V	MX25Lxx05	V	V								
	Standard Serial Interface										
	MX25Lxx06			V	V	V	V	V	V		
	Single-in/Multi-out series										
	MX25Lxx08						V	V	V		
	Unique ID series										
	MX25Lxx25/ 26		V	V	V			V			
	Default Lock Protection series										
	MX25Lxx35/36/45										
	MXSMIO® & MXSMIO® Duplex series					V	V	V	V	V	V
2.5V	MX25Lxx55						V	V	V	V	V
	MXSMIO® Secure series										
	MX25Vxx05	V			V	V					
1.8V	Standard Serial Interface										
	MX25Vxx35				V	V					
	MXSMIO® series										
1.8V	MX25Uxx35				V	V	V	V	V		
	MXSMIO® series										

3V Serial Flash Family:

Part number	Density	Organization	I/O Bus	Frequency (MHz)	Package	Voltage
Standard Serial Interface Series:						
MX25L512C	512Kb	4KB / 64KB	Single	85	150mil 8-SOP, 8-TSSOP, 8- USON(2×3mm)	2.7~3.6V
MX25L1005C	1Mb	4KB / 64KB	Single	85	150mil 8-SOP, 8-USON(2×3mm)	2.7~3.6V
Single-in Dual-out Series:						
MX25L2006E	2Mb	4KB / 64KB	Single / Dual	86(x1), 80(x2)	150mil 8-SOP, 8-WSON(6x5mm)	2.7~3.6V
MX25L4006E	4Mb	4KB / 64KB	Single / Dual	86(x1), 80(x2)	150mil 8-SOP, 200mil 8-SOP, 300mil 8-PDIP, 8-WSON(6x5mm)	2.7~3.6V
MX25L8006E	8Mb	4KB / 64KB	Single / Dual	86(x1), 80(x2)	150mil 8-SOP, 200mil 8-SOP, 300mil 8-PDIP, 8-WSON(6x5mm), 8-USON(4x4mm)	2.7~3.6V
MX25L1606E	16Mb	4KB / 64KB	Single / Dual	86(x1), 80(x2)	150mil 8-SOP, 200mil 8-SOP, 300mil 16-SOP,300mil 8-PDIP, 8-WSON(6x5mm), 8-USON(4x4mm)	2.7~3.6V
MX25L3206E	32Mb	4KB / 64KB	Single / Dual	86(x1), 80(x2)	200mil 8-SOP,300mil 16-SOP, 300mil 8-PDIP, 8-WSON(6x5mm), 8-USON(4x4mm)	2.7~3.6V
MX25L6406E	64Mb	4KB / 64KB	Single / Dual	86(x1), 80(x2)	200mil 8-SOP,300mil 16-SOP, 8-WSON(8x6mm)	2.7~3.6V
Default Lock Protection Series						
MX25L1025C	1Mb	4KB / 64KB	Single	85	150mil 8-SOP	2.7~3.6V
MX25L2026E	2Mb	4KB / 64KB	Single/Dual	86(x1), 80(x2)	150mil 8-SOP	2.7~3.6V
MX25L4026E	4Mb	4KB / 64KB	Single/Dual	86(x1), 80(x2)	150mil 8-SOP	2.7~3.6V
MX25L3225D	32Mb	4KB / 64KB	Single / Dual / Quad	104(x1), 75(x2, x4)	200mil 8-SOP	2.7~3.6V

3V Serial Flash Family:

Part number	Density	Organization	I/O Bus	Frequency(MHz)	Package	Voltage	Features
MXSMIO [®] & MXSMIO [®] Duplex Series:							
MX25L8035E	8Mb	4KB / 64KB	Single/Dual/Quad	108(x1, x4), 80(x2)	200mil 8-SOP	2.7~3.6V	Multi-in, Multi-out
MX25L8036E	8Mb	4KB / 64KB	Single/Dual/Quad	133(x1, x2, x4)	200mil 8-SOP	2.7~3.6V	Single-in, Multi-out
MX25L1633E	16Mb	4KB / 64KB	Single/Dual/Quad	104(x1), 75(x2, x4)	200mil 8-SOP,	2.7~3.6V	Multi-in, Multi-out
					300mil 16-SOP, 8-WSON(6×5mm)		
MX25L1635D	16Mb	4KB / 64KB	Single/Dual/Quad	104(x1), 75(x2, x4)	200mil 8-SOP,	2.7~3.6V	Multi-in, Multi-out
					300mil 16-SOP, 8-WSON(6×5mm)		
MX25L1636D	16Mb	4KB / 64KB	Single/Dual/Quad	86(x1), 75(x2, x4)	200mil 8-SOP,	2.7~3.6V	Single-in, Multi-out
					300mil 16-SOP		
MX25L3235D	32Mb	4KB / 64KB	Single/Dual/Quad	104(x1), 75(x2, x4)	200mil 8-SOP,	2.7~3.6V	Multi-in, Multi-out
					300mil 16-SOP, 8-WSON(6×5mm), 8-WSON(8x6mm)		
MX25L3236D	32Mb	4KB / 64KB	Single/Dual/Quad	86(x1), 75(x2, x4)	200mil 8-SOP	2.7~3.6V	Single-in, Multi-out
MX25L3237D	32Mb	4KB / 64KB	Single/Dual/Quad	86(x1), 75(x2, x4)	300mil 16-SOP 8-WSON(6×5mm)	2.7~3.6V	VI/O=1.8V Multi-in, Multi-out
MX25L6436E	64Mb	4KB / 32KB / 64KB	Single/Dual/Quad	104(x1), 70(x2, x4)	200mil 8-SOP	2.7~3.6V	Single-in, Multi-out.
MX25L6445E	64Mb	4KB / 32KB / 64KB	Single/Dual/Quad/ DTR	104(x1), 70(x2, x4)	200mil 8-SOP 300mil 16-SOP	2.7~3.6V	Multi-in, Multi-out With DTR Function.
MX25L12836E	128Mb	4KB / 32KB / 64KB	Single/Dual/Quad	104(x1), 70(x2, x4)	300mil 16-SOP	2.7~3.6V	Single-in, Multi-out.
MX25L12845E	128Mb	4KB / 32KB / 64KB	Single/Dual/Quad/ DTR	104(x1), 70(x2, x4)	300mil 16-SOP 8-WSON(8×6mm)	2.7~3.6V	Multi-in, Multi-out With DTR Function.
MX25L25635E	256Mb	4KB / 32KB / 64KB	Single/Dual/Quad	80(x1), 70(x2, x4)	300mil 16-SOP 8-WSON(8x6mm)	2.7~3.6V	Multi-in, Multi-out
MX25L25735E	256Mb	4KB / 32KB / 64KB	Single/Dual/Quad	80(x1), 70(x2, x4)	300mil 16-SOP 8-WSON(8x6mm)	2.7~3.6V	Multi-in, Multi-out

2.5V Serial Flash Family:

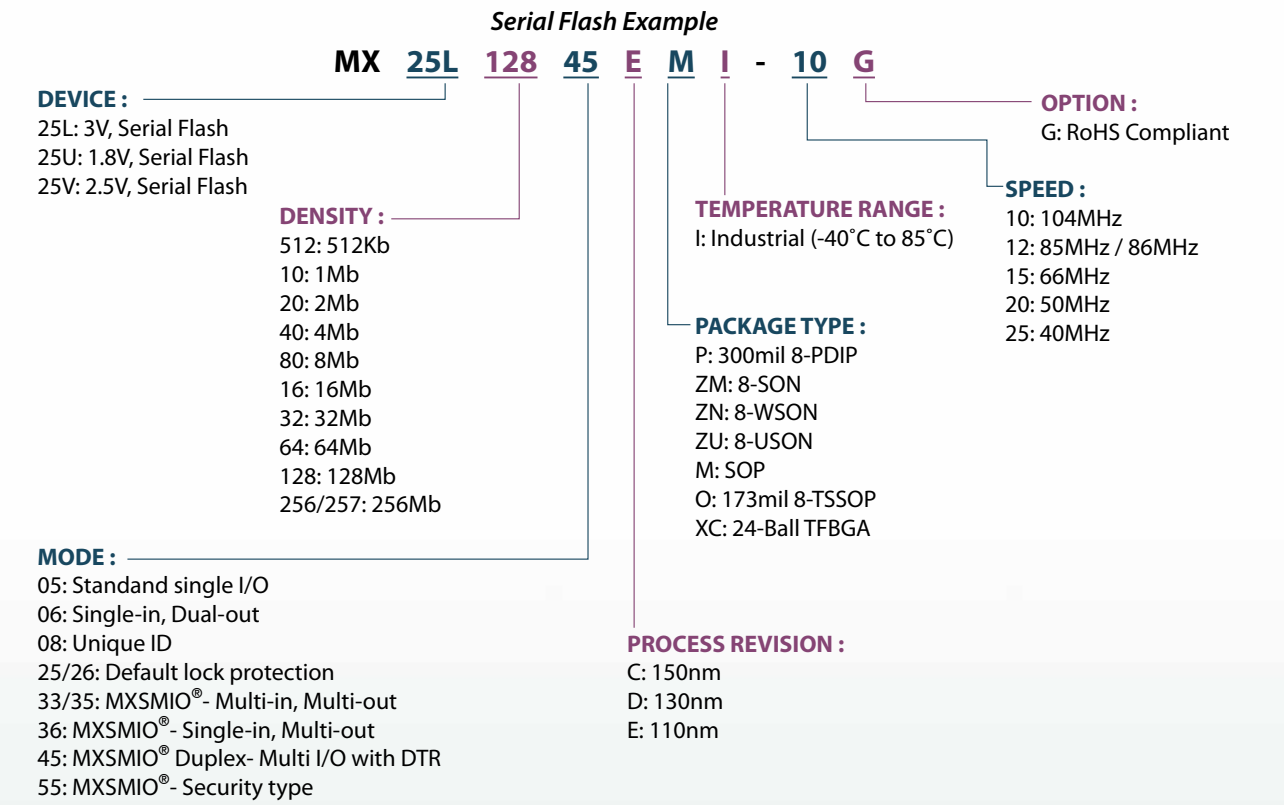
Part Number	Density	Organization	I/O Bus	Frequency (MHz)	Package
Standard Serial Interface Series:					
MX25V512C	512Kb	4KB / 64KB	Single	50	8-WSON(2×3mm)
MX25V4005C	4Mb	4KB / 64KB	Single	50	150mil 8-SOP 8-WSON(6×5mm)
MX25V8005	8Mb	4KB / 64KB	Single	50	150mil 8-SOP 8-WSON(6×5mm)
MXSMIO [®] Series:					
MX25V4035	4Mb	4KB /32KB / 64KB	Single/Dual/Quad	66(x1), 50(x2, x4)	150mil 8-SOP, 8-WSON(6×5mm)
MX25V8035	8Mb	4KB / 32KB / 64KB	Single/Dual/Quad	66(x1), 50(x2, x4)	150mil 8-SOP, 8-WSON(6×5mm)

1.8V MXSMIO[®] Family:

Part Number	Density	Organization	I/O Bus	Frequency (MHz)	Package	Feature
MX25U4035	4Mb	4KB / 32KB / 64KB	Single/Dual/Quad	40(x1, x2), 33(x4)	150mil 8-SOP, 8-WSON(6x5mm), 8USON(4×4mm)	
MX25U8035E	8Mb	4KB / 32KB / 64KB	Single/Dual/Quad	104(x1, x4), 84(x2)	150mil 8-SOP,200mil 8-SOP, 8-WSON(6x5mm),8-USON(4×4mm)	QPI
MX25U1635E	16Mb	4KB / 32KB / 64KB	Single/Dual/Quad	104(x1, x4), 84(x2)	150mil 8-SOP,200mil 8-SOP, 8-WSON(6x5mm),8-USON(4×4mm)	QPI
MX25U3235E	32Mb	4KB / 32KB / 64KB	Single/Dual/Quad	104(x1, x4), 84(x2)	8-WSON(6x5mm),8-USON(4×4mm)	QPI
MX25U6435E	64Mb	4KB / 32KB / 64KB	Single/Dual/Quad	104(x1, x4), 84(x2)	8-WSON(6x5mm)	QPI

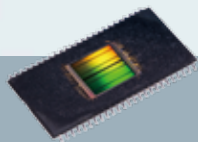
Applications

Segment	Application	512Kb	1Mb	2Mb	4Mb	8Mb	16Mb	32Mb	64Mb	128Mb	256Mb
Computer	Mobile PC				●	●	●	●	●		
	DeskTop PC					●	●	●	●		
	Server							●	●	●	●
	Printer						●	●	●	●	●
	Graphics	●	●	●							
	HDD	●	●	●	●	●					
	ODD			●	●	●	●	●			
Communication	DSL					●	●	●			
	Cable Modem						●	●	●	●	
	IAD/Home Gateway								●	●	●
	WiMAX							●	●	●	●
	IP Phone							●	●	●	
	AP Router				●	●	●	●	●		
	Digital TV						●	●	●		
Consumer	Digital Audio/ DAM		●	●	●						
	DVD Player					●	●	●			
	Set Top Box						●	●	●		



PACKAGE OPTIONS

Macronix provides Flash products with extremely Small Packages as well as very thin packages for space-constrained applications.



Serial Packages



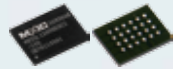
8 SOP (150mil)	
Length	6
Width	5
Thickness	1.75
Pitch	1.27
(mm)	



8 SOP (200mil)	
Length	7.9
Width	5.23
Thickness	2.16
Pitch	1.27
(mm)	



16 SOP (300mil)	
Length	10.3
Width	10.3
Thickness	2.65
Pitch	1.27
(mm)	



24 BGA (Ball Dia.0.4)	
Length	8
Width	6
Thickness	1.2
Pitch	1.0
(mm)	



8 WSON (8×6)	
Length	8
Width	6
Thickness	0.8
Pitch	1.27
(mm)	



8 WSON (6×5)	
Length	6
Width	5
Thickness	0.8
Pitch	1.27
(mm)	



8 USON (4×4)	
Length	4
Width	4
Thickness	0.6
Pitch	0.8
(mm)	



8 USON (2×3)	
Length	3
Width	2
Thickness	0.6
Pitch	0.5
(mm)	