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# Macronix Serial NOR Flash

**MX** **25L** **256** **35** **F** **M** **I** - **10** **G**

## DEVICE :

25L/66L : 3V, Serial NOR Flash  
25U/66U : 1.8V, Serial NOR Flash  
25V : 2.5V, Serial NOR Flash

## OPTION :

G : RoHS Compliant

## SPEED :

05 : 200MHz  
08 : 133MHz  
10 : 104MHz/108MHz  
12 : 80MHz/86MHz  
13 : 75MHz  
15 : 66MHz  
20 : 45MHz

## DENSITY :

512 : 512Kb  
10 : 1Mb  
20 : 2Mb  
40 : 4Mb  
80 : 8Mb  
16 : 16Mb  
32 : 32Mb  
64 : 64Mb  
128 : 128Mb  
256/257 : 256Mb  
512 : 512Mb  
1G : 1Gb  
2G : 2Gb

## TEMPERATURE RANGE :

E : Industrial (-55°C to 125°C)  
I : Industrial (-40°C to 85°C)  
J : Industrial (-40°C to 105°C)  
K : Industrial (-40°C to 125°C)  
S : Automotive Grade 3 (-40°C to 85°C)  
R : Automotive Grade 2 (-40°C to 105°C)  
Q : Automotive Grade 1 (-40°C to 125°C)

## MODE :

06 : Single-in, Dual-out  
08 : Unique ID  
26 : Default Lock Protection  
33/35/39 : MXSMIO®-Multi-in, Multi-out  
36 : MXSMIO®-Single-in, Multi-out  
45 : MXSMIO® Duplex(DTR)-Multi-in, Multi-out  
50 : MXSMIO®-Security RPMC type  
55 : MXSMIO®-Security type  
73 : MXSMIO®-Multi I/O, Quad I/O Permanent Enable  
85 : MXSMIO®-Multi I/O, Dual Quad

## PACKAGE TYPE :

P : PDIP  
ZN/Z2/Z3/Z4 : WSON  
ZU/ZB : USON  
M/M1/M2 : SOP  
MB/MD : VSOP  
O : 8-TSSOP  
X : BGA  
BA/BB/BC/BD/BE : WLCSP

## GENERATION

## OctaFlash and Serial NOR Flash 1.8V G-Generation Example

**MX** **25UM** **256** **45** **G** **M** **I** - **0A**

### DEVICE :

25U/66U : 1.8V, Serial NOR Flash  
25UM/66UM : 1.8V, 8 I/O, Serial NOR Flash  
25LM/66LM : 3V, 8 I/O, Serial NOR Flash

### DENSITY :

128 : 128Mb  
256 : 256Mb  
512 : 512Mb  
1G : 1Gb  
2G : 2Gb

### MODE :

45 : MXSMIO® Duplex[DTR]-Multi-in, Multi-out

### MODEL CODE :

0A : Default STR, x1 I/O enable  
1A : Default DTR, x8 I/O enable  
00 : Default STR, x1 I/O enable,  
with password protection  
10 : Default DTR, x8 I/O enable,  
with password protection

### TEMPERATURE RANGE :

I : Industrial (-40°C to 85°C)  
S : Automotive Grade 3 (-40°C to 85°C)  
R : Automotive Grade 2 (-40°C to 105°C)  
Q : Automotive Grade 1 (-40°C to 125°C)

### PACKAGE TYPE :

M/M2 : SOP  
XD/XR : BGA  
ZN/Z2 : WSON

### GENERATION

## Wide Range Vcc Serial NOR Flash Example

**MX** **25R** **64** **35** **F** **M2** **I** - **L** **0**

### DEVICE :

25R : Serial NOR Flash  
(Ultra Low Power/1.65-3.6V)

### DENSITY :

512 : 512Kb  
10 : 1Mb  
20 : 2Mb  
40 : 4Mb  
80 : 8Mb  
16 : 16Mb  
32 : 32Mb  
64 : 64Mb

### MODE :

35 : MXSMIO®-  
Multi-in, Multi-out

### OPTION 2 :

0 : RESET#  
1 : HOLD#  
Q : Quad I/O Permanent Enable

### OPTION 1 :

L : Ultra Low Power Mode (Default)  
H : High Performance Mode (Default)

### TEMPERATURE RANGE :

I : Industrial (-40°C to 85°C)

### PACKAGE TYPE :

ZN/Z2/Z3/Z4 : WSON  
ZU/ZB/ZA : USON  
M1/M2 : SOP  
0 : 8-TSSOP  
BD/BF : WLCSP

### GENERATION

## Wide Range Vcc Serial NOR Flash

| Density | Part Number | Packages                                | Recommended<br>Macronix Part No. |
|---------|-------------|-----------------------------------------|----------------------------------|
| 256Kb   | AT25DF256   | 8-SOP, 8-TSSOP, 8-USON                  | MX25R512F                        |
| 512Kb   | AT25DF512C  | 8-SOP, 8-TSSOP, 8-USON                  | MX25R512F                        |
| 512Kb   | AT25XE512C  | 8-SOP, 8-TSSOP, 8-USON                  | MX25R512F                        |
| 1Mb     | AT25DF011   | 8-SOP, 8-TSSOP, 8-USON                  | MX25R1035F                       |
| 1Mb     | AT25XE011   | 8-SOP, 8-TSSOP, 8-USON                  | MX25R1035F                       |
| 2Mb     | AT25DF021A  | 8-SOP, 8-TSSOP, 8-USON, 8-WSON          | MX25R2035F                       |
| 2Mb     | AT25PE20    | 8-SOP, 8-WSON                           | MX25R2035F                       |
| 2Mb     | AT25XE021A  | 8-SOP, 8-TSSOP, 8-USON, 8-WSON          | MX25R2035F                       |
| 2Mb     | AT25XV021A  | 8-SOP, 8-TSSOP, 8-USON, 8-WSON, 8-WLCSP | MX25R2035F                       |
| 2Mb     | AT45DB021E  | 8-SOP, 8-WSON, 8-WLCSP, KGD             | MX25R2035F                       |
| 4Mb     | AT25DF041B  | 8-SOP, 8-TSSOP, 8-USON, 8-WSON          | MX25R4035F                       |
| 4Mb     | AT25PE40    | 8-SOP, 8-WSON                           | MX25R4035F                       |
| 4Mb     | AT25XE041B  | 8-SOP, 8-TSSOP, 8-USON, 8-WSON, 8-WLCSP | MX25R4035F                       |
| 4Mb     | AT25XV041B  | 8-SOP, 8-TSSOP, 8-USON, 8-WSON, 8-WLCSP | MX25R4035F                       |
| 4Mb     | AT45DB041E  | 8-SOP, 8-WSON, 8-WLCSP, KGD             | MX25R4035F                       |
| 8Mb     | AT25PE80    | 8-SOP, 8-WSON                           | MX25R8035F                       |
| 8Mb     | AT45DB081E  | 8-SOP, 8-WSON, 8-WLCSP, KGD             | MX25R8035F                       |
| 64Mb    | AT45DB641E  | 8-SOP, 8-WSON, 9-UBGA                   | MX25R6435F                       |

## 3V Serial NOR Flash

| Density | Part Number | Packages                       | Recommended<br>Macronix Part No. |
|---------|-------------|--------------------------------|----------------------------------|
| 32Kb    | RM24C32     | 8-SOP, 8-TSSOP                 | Contact Macronix Sales           |
| 32Kb    | RM25C32     | 8-SOP, 8-TSSOP                 | Contact Macronix Sales           |
| 32Kb    | RM3333      | 8-SOP                          | Contact Macronix Sales           |
| 64Kb    | RM24C64     | 8-SOP, 8-TSSOP                 | Contact Macronix Sales           |
| 64Kb    | RM25C64     | 8-SOP, 8-TSSOP, 8-USON, 8-WSON | Contact Macronix Sales           |
| 64Kb    | RM3334      | 8-SOP                          | Contact Macronix Sales           |
| 128Kb   | RM3335      | 8-SOP                          | Contact Macronix Sales           |
| 256Kb   | RM3336      | 8-SOP                          | Contact Macronix Sales           |
| 512Kb   | AT25BCM512B | 8-USON                         | MX25V512F                        |
| 512Kb   | AT25F512B   | 8-SOP, 8-USON                  | MX25V512F                        |
| 1Mb     | AT45DB011D  | 8-SOP, 8-WSON                  | MX25V1006F                       |
| 2Mb     | AT25DF021   | 8-SOP, 8-WSON                  | MX25L2006E                       |
| 2Mb     | AT45DB021   | 8-SOP, 8-WSON                  | MX25L2006E                       |
| 2Mb     | AT45DB021D  | 8-SOP, 8-WSON                  | MX25L2006E                       |
| 4Mb     | AT25DF041A  | 8-SOP, 8-WSON                  | MX25L4006E                       |
| 4Mb     | AT45DB041   | 8-SOP, 8-USON                  | MX25L4006E                       |
| 4Mb     | AT45DB041D  | 8-SOP, 8-WSON                  | MX25L4006E                       |
| 8Mb     | AT25DF081A  | 8-SOP, 8-WSON                  | MX25V8035F                       |
| 8Mb     | AT26DF081A  | 8-SOP                          | MX25V8035F                       |
| 8Mb     | AT45DB081   | 8-SOP, 8-USON                  | MX25V8035F                       |
| 8Mb     | AT45DB081D  | 8-SOP, 8-WSON                  | MX25V8035F                       |
| 16Mb    | AT25DF161   | 8-SOP, 8-WSON                  | MX25V1635F                       |
| 16Mb    | AT25DQ161   | 8-SOP, 8-WSON                  | MX25V1635F                       |
| 16Mb    | AT45DB161   | 8-SOP, 8-USON, 28-TSOP         | MX25V1635F                       |
| 16Mb    | AT45DB161D  | 8-SOP, 8-TSSOP, 8-WSON         | MX25V1635F                       |
| 32Mb    | AT25DF321A  | 8-SOP, 8-WSON, 9-UBGA          | MX25L3233F                       |
| 32Mb    | AT25DQ321   | 8-SOP, 8-WSON                  | MX25L3233F                       |
| 32Mb    | AT45DB321   | 8-SOP, 8-SON, 24-BGA, 28-TSOP  | Contact Macronix Sales           |
| 32Mb    | AT45DB321D  | 8-SOP, 8-WSON, 28-TSOP         | MX25L3233F                       |
| 64Mb    | AT25DF641   | 8-WSON, 16-SOP                 | MX25L6433F                       |
| 64Mb    | AT25DF641A  | 8-SOP, 8-WSON                  | MX25L6433F                       |
| 64Mb    | AT25QF641   | 8-PDIP, 8-WSON, 8-WLCSP, KGD   | MX25L6473F                       |
| 64Mb    | AT25SF641   | 8-SOP, 8-WSON, 21-WLCSP, KGD   | MX25L6433F                       |
| 64Mb    | AT45DB642   | 8-SON, 24-BGA, 28-TSOP         | Contact Macronix Sales           |
| 64Mb    | AT45DB642D  | 8-SOP, 28-TSOP                 | MX25L6433F                       |

## 2.5V Serial NOR Flash

| Density | Part Number | Packages                       | Recommended<br>Macronix Part No. |
|---------|-------------|--------------------------------|----------------------------------|
| 32Kb    | RM3323      | 8-SOP                          | Contact Macronix Sales           |
| 64Kb    | RM3324      | 8-SOP                          | Contact Macronix Sales           |
| 128Kb   | RM3325      | 8-SOP                          | Contact Macronix Sales           |
| 256Kb   | AT25DN256   | 8-SOP, 8-TSSOP, 8-USON         | Contact Macronix Sales           |
| 256Kb   | RM3326      | 8-SOP                          | Contact Macronix Sales           |
| 512Kb   | AT25DN512C  | 8-SOP, 8-TSSOP, 8-USON         | MX25V512F                        |
| 1Mb     | AT25DN011   | 8-SOP, 8-TSSOP, 8-USON         | MX25V1006F                       |
| 4Mb     | AT25SF041   | 8-SOP, 8-TSSOP, 8-USON, 8-WSON | MX25V4035F                       |
| 8Mb     | AT25SF081   | 8-SOP, 8-TSSOP, 8-USON, 8-WSON | MX25V8035F                       |
| 16Mb    | AT25SF161   | 8-SOP, 8-WSON, 8-WLCSP, KGD    | MX25V1635F                       |
| 16Mb    | AT45DB161E  | 8-SOP, 8-WSON, 11-WLCSP        | MX25V1635F                       |
| 16Mb    | AT45DQ161   | 8-SOP, 8-WSON, 9-UBGA          | MX25V1635F                       |
| 32Mb    | AT25SF321   | 8-SOP, 8-WSON                  | MX25R3235F                       |
| 32Mb    | AT45DB321E  | 8-SOP, 8-WSON, 9-UBGA          | Contact Macronix Sales           |
| 32Mb    | AT45DQ321   | 8-SOP, 8-WSON, 9-UBGA          | MX25R3235F                       |

## 1.8V Serial NOR Flash

| Density | Part Number | Packages                               | Recommended<br>Macronix Part No. |
|---------|-------------|----------------------------------------|----------------------------------|
| 32Kb    | RM3003      | 8-SOP                                  | Contact Macronix Sales           |
| 32Kb    | RM3313      | 8-SOP                                  | Contact Macronix Sales           |
| 64Kb    | RM3004      | 8-SOP                                  | Contact Macronix Sales           |
| 64Kb    | RM3314      | 8-SOP                                  | Contact Macronix Sales           |
| 128Kb   | RM3005      | 8-SOP                                  | Contact Macronix Sales           |
| 128Kb   | RM3315      | 8-SOP                                  | Contact Macronix Sales           |
| 256Kb   | RM3007      | 8-SOP                                  | Contact Macronix Sales           |
| 256Kb   | RM3316      | 8-SOP                                  | Contact Macronix Sales           |
| 8Mb     | AT25DF081   | 8-SOP, 8-WSON                          | MX25U8033E                       |
| 8Mb     | AT25DL081   | 8-WSON                                 | MX25U8033E                       |
| 8Mb     | AT45DQ081   | 8-SOP, 8-WSON                          | MX25U8033E                       |
| 16Mb    | AT25DL161   | 8-SOP, 8-WSON                          | MX25U1635F                       |
| 32Mb    | AT25QL321   | 8-SOP, 8-WSON, 21-WLCSP, KGD           | MX25U3273F                       |
| 32Mb    | AT25SL321   | 8-SOP, 8-WSON, KGD, WLCSP              | MX25U3235F                       |
| 32Mb    | ATXP032     | 8-WSON, KGD, WLCSP                     | Contact Macronix Sales           |
| 64Mb    | AT25QL641   | 8-SOP, 8-WSON, 21-WLCSP, KGD           | MX25U6473F                       |
| 64Mb    | AT25SL641   | 8-SOP, 8-WSON, 21-WLCSP, KGD           | MX25U6435F                       |
| 128Mb   | AT25QL128A  | 8-SOP, 8-WSON, 21-WLCSP, 26-WLCSP, KGD | MX25U12873F                      |
| 128Mb   | AT25SL128   | 8-SOP, 8-WSON, 9-UBGA, 21-WLCSP, KGD   | MX25U12835F                      |
| 128Mb   | AT25SL128A  | 8-SOP, 8-WSON, 21-WLCSP, 26-WLCSP, KGD | MX25U12835F                      |

## Related package with different name

| Adesto             | Macronix    |
|--------------------|-------------|
| SOIC               | SOP UDFN /  |
| VDFN               | USON / WSON |
| xBGA               | BGA         |
| Wafer-Die Solution | KGD         |

## 3V Serial NOR Flash

Adesto

**Cypress**

Micron

Winbond

| Density | Part Number | Packages                            | Recommended<br>Macronix Part No. |
|---------|-------------|-------------------------------------|----------------------------------|
| 4Mb     | S25FL004A   | 8-SOP, 8-WSO                        | MX25L4006E                       |
| 4Mb     | S25FL004K   | 8-SOP                               | MX25L4006E                       |
| 4Mb     | S25FL040A   | 8-SOP, 8-WSO                        | MX25L4006E                       |
| 4Mb     | S25FL204K   | 8-SOP                               | MX25L4006E                       |
| 8Mb     | S25FL008A   | 8-SOP, 8-WSO                        | MX25V8035F                       |
| 8Mb     | S25FL008K   | 8-SOP                               | MX25V8035F                       |
| 8Mb     | S25FL208K   | 8-SOP                               | MX25V8035F                       |
| 16Mb    | S25FL016A   | 8-SOP, 8-WSO, 16-SOP                | MX25V1635F                       |
| 16Mb    | S25FL016K   | 8-SOP                               | MX25V1635F                       |
| 16Mb    | S25FL116K   | 8-SOP, 8-WSO, 24-BGA                | MX25V1635F                       |
| 16Mb    | S25FL216K   | 8-SOP                               | MX25V1635F                       |
| 32Mb    | S25FL032A   | 16-SOP                              | MX25L3233F                       |
| 32Mb    | S25FL032K   | 8-SOP                               | MX25L3233F                       |
| 32Mb    | S25FL032P   | 8-SOP, 8-USO, 8-WSO, 16-SOP, 24-BGA | MX25L3233F                       |
| 32Mb    | S25FL132K   | 8-SOP, 8-WSO, 24-BGA                | MX25L3233F                       |
| 32Mb    | S99FL132K   | 24-BGA                              | Contact Macronix Sales           |
| 64Mb    | S25FL064A   | 16-SOP                              | MX25L6433F                       |
| 64Mb    | S25FL064K   | 8-SOP, 16-SOP                       | MX25L6433F                       |
| 64Mb    | S25FL064L   | 8-SOP, 8-USO, 24-BGA                | MX25L6433F                       |
| 64Mb    | S25FL064P   | 8-WSO, 16-SOP, 24-BGA               | MX25L6433F                       |
| 64Mb    | S25FL164K   | 8-SOP, 8-WSO, 16-SOP, 24-BGA        | MX25L6433F                       |
| 128Mb   | S25FL127S   | 8-SOP, 8-WSO, 16-SOP, 24-BGA        | MX25L12835F                      |
| 128Mb   | S25FL128K   | 16-SOP                              | MX25L12835F                      |
| 128Mb   | S25FL128L   | 8-SOP, 8-WSO, 24-BGA                | MX25L12835F                      |
| 128Mb   | S25FL128P   | 8-WSO, 16-SOP                       | MX25L12835F                      |
| 128Mb   | S25FL128S   | 8-WSO, 16-SOP, 24-BGA               | MX25L12835F                      |
| 128Mb   | S25FL129P   | 8-WSO, 16-SOP, 24-BGA               | MX25L12835F                      |
| 128Mb   | S26KL128S   | 24-BGA                              | MX25LM12845G                     |
| 256Mb   | S25FL256L   | 8-SOP, 8-WSO, 16-SOP, 24-BGA        | MX25L25645G                      |
| 256Mb   | S25FL256S   | 8-WSO, 16-SOP, 24-BGA               | MX25L25645G                      |
| 256Mb   | S26KL256S   | 24-BGA                              | MX25LM25645G                     |
| 256Mb   | S70FL256P   | 16-SOP, 24-BGA                      | MX25L25645G                      |
| 256Mb   | S79FL256S   | 16-SOP                              | Contact Macronix Sales           |
| 512Mb   | S25FL512S   | 16-SOP, 24-BGA                      | MX25L51245G, MX25L51237G         |
| 512Mb   | S26KL512S   | 24-BGA                              | MX25LM51245G                     |
| 512Mb   | S79FL512S   | 16-SOP                              | Contact Macronix Sales           |
| 1Gb     | S70FL01GS   | 16-SOP, 24-BGA                      | MX66L1G45G                       |
| 1Gb     | S79FL01GS   | 24-BGA                              | Contact Macronix Sales           |

## 1.8V Serial NOR Flash

| Density | Part Number | Packages              | Recommended<br>Macronix Part No. |
|---------|-------------|-----------------------|----------------------------------|
| 64Mb    | S25FS064S   | 8-SOP, 24-BGA         | MX25U6435F                       |
| 128Mb   | S25FS128S   | 8-SOP, 8-WSO, 24-BGA  | MX25U12835F                      |
| 128Mb   | S26KS128S   | 24-BGA                | MX25UM12845G                     |
| 256Mb   | S25FS256S   | 8-WSO, 16-SOP, 24-BGA | MX25U25645G                      |
| 256Mb   | S26KS256S   | 24-BGA                | MX25UM25645G                     |
| 512Mb   | S25FS512S   | 8-WSO, 16-SOP, 24-BGA | MX25U51245G                      |
| 512Mb   | S26KS512S   | 24-BGA                | MX25UM51245G                     |
| 1Gb     | S70FS01GS   | 16-SOP, 24-BGA        | MX66U1G45G                       |

## Related package with different name

| Cypress | Macronix |
|---------|----------|
| KGW     | KGD      |
| SO      | SOP      |
| xBGA    | BGA      |

## 3V Serial NOR Flash

| Adesto  | Density | Part Number | Packages                                   | Recommended<br>Macronix Part No. |
|---------|---------|-------------|--------------------------------------------|----------------------------------|
|         |         |             |                                            |                                  |
| Cypress | 1Mb     | M25PE10     | 8-SOP, KGD                                 | MX25V1006F                       |
|         | 1Mb     | M45PE10     | 8-SOP                                      | MX25V1006F                       |
| Micron  | 2Mb     | M25P20      | 8-SOP, 8-WSO                               | MX25L2006E                       |
|         | 2Mb     | M25PE20     | 8-SOP, KGD                                 | MX25L2006E                       |
| Winbond | 2Mb     | M45PE20     | 8-SOP, 8-WSO                               | MX25L2006E                       |
|         | 4Mb     | M25PE40     | 8-SOP, 8-WSO                               | MX25L4006E                       |
|         | 4Mb     | M45PE40     | 8-SOP, 8-WSO                               | MX25L4006E                       |
|         | 8Mb     | M25P80      | 8-SOP, 8-USO, 8-WSO                        | MX25V8035F                       |
|         | 8Mb     | M25PE80     | 8-SOP, 8-WSO                               | MX25V8035F                       |
|         | 8Mb     | M25PX80     | 8-SOP, 8-WSO                               | MX25V8035F                       |
|         | 8Mb     | M45PE80     | 8-SOP, 8-WSO                               | MX25V8035F                       |
|         | 16Mb    | M25P16      | 8-SOP, 8-USO, 8-WSO, 16-SOP, KGD           | MX25V1635F                       |
|         | 16Mb    | M25PE16     | 8-SOP, 8-WSO                               | MX25V1635F                       |
|         | 16Mb    | M45PE16     | 8-SOP, 8-WSO                               | MX25V1635F                       |
|         | 32Mb    | M25P32      | 8-SOP, 16-SOP                              | MX25L3233F                       |
|         | 32Mb    | M25PX32     | 8-WSO, 24-BGA                              | MX25L3233F                       |
|         | 32Mb    | N25Q032A13  | 8-SOP, 8-USO, 8-WSO, 16-SOP, 24-BGA, KGD   | MX25L3233F                       |
|         | 32Mb    | N25Q032A23  | 8-SOP, 8-SO, 8-USO, 16-SOP, 24-BGA         | MX25L3233F                       |
|         | 32Mb    | N25Q032A33  | 8-SOP, 8-SO, 8-USO, 16-SOP, 24-BGA         | MX25L3233F                       |
|         | 32Mb    | N25Q032A43  | 8-SOP, 8-SO, 8-USO, 16-SOP, 24-BGA         | MX25L3233F                       |
|         | 64Mb    | M25P64      | 8-SO, 16-SOP                               | MX25L6433F                       |
|         | 64Mb    | M25PX64     | 8-SO, 16-SOP, 24-BGA                       | MX25L6433F                       |
|         | 64Mb    | N25Q064A13  | 8-SOP, 8-WSO, 16-SOP, 24-BGA, XF-SCSP, KGD | MX25L6433F                       |
|         | 64Mb    | N25Q064A23  | 8-SOP, 8-SO, 16-SOP, 24-BGA                | MX25L6433F                       |
|         | 64Mb    | N25Q064A33  | 8-SOP, 8-SO, 16-SOP, 24-BGA                | MX25L6433F                       |
|         | 64Mb    | N25Q064A43  | 8-SOP, 8-SO, 16-SOP, 24-BGA                | MX25L6433F                       |
|         | 128Mb   | M25P128     | 8-WSO, 16-SOP                              | MX25L12835F                      |
|         | 128Mb   | MT25QL128A  | 8-SOP, 8-WSO, 16-SOP, 24-BGA               | MX25L12835F                      |
|         | 128Mb   | N25Q128A13  | 8-SOP, 8-WSO, 16-SOP, 24-BGA, KGD          | MX25L12835F                      |
|         | 128Mb   | N25Q128A23  | 8-SOP, 8-SO, 16-SOP, 24-BGA                | MX25L12835F                      |
|         | 128Mb   | N25Q128A33  | 8-SOP, 8-SO, 16-SOP, 24-BGA                | MX25L12835F                      |
|         | 128Mb   | N25Q128A43  | 8-SOP, 8-SO, 16-SOP, 24-BGA                | MX25L12835F                      |
|         | 256Mb   | MT25QL256A  | 8-WSO, 16-SOP, 24-BGA                      | MX25L25645G                      |
|         | 256Mb   | MT25TL256B  | 16-SOP                                     | Contact Macronix Sales           |
|         | 256Mb   | MT25TL256H  | 16-SOP                                     | Contact Macronix Sales           |
|         | 256Mb   | N25Q256A13  | 8-WSO, 16-SOP, 24-BGA                      | MX25L25645G                      |
|         | 256Mb   | N25Q256A23  | 8-SO, 16-SOP, 24-BGA                       | MX25L25645G                      |
|         | 256Mb   | N25Q256A33  | 8-WSO                                      | MX25L25645G                      |
|         | 256Mb   | N25Q256A43  | 8-SO, 16-SOP, 24-BGA                       | MX25L25645G                      |
|         | 256Mb   | N25Q256A73  | 16-SOP                                     | MX25L25645G                      |
|         | 256Mb   | N25Q256A83  | 16-SOP, 24-BGA                             | MX25L25645G                      |
|         | 512Mb   | MT25QL512AB | 8-WSO, 16-SOP, 24-BGA                      | MX25L51245G                      |
|         | 512Mb   | MT25TL512B  | 16-SOP                                     | Contact Macronix Sales           |
|         | 512Mb   | MT25TL512H  | 16-SOP, 24-BGA                             | Contact Macronix Sales           |
|         | 512Mb   | MT35XL512AB | 24-BGA                                     | MX25LM51245G                     |
|         | 512Mb   | N25Q512A13  | 8-WSO, 16-SOP, 24-BGA                      | MX25L51245G                      |
|         | 512Mb   | N25Q512A23  | 8-SO, 16-SOP, 24-BGA                       | MX25L51245G                      |
|         | 512Mb   | N25Q512A33  | 8-SO, 16-SOP, 24-BGA                       | MX25L51245G                      |
|         | 512Mb   | N25Q512A43  | 8-SO, 16-SOP, 24-BGA                       | MX25L51245G                      |
|         | 512Mb   | N25Q512A73  | 8-SO, 16-SOP, 24-BGA                       | MX25L51245G                      |
|         | 512Mb   | N25Q512A83  | 16-SOP, 24-BGA                             | MX25L51245G                      |
|         | 1Gb     | MT25QL01GB  | 16-SOP, 24-BGA                             | MX66L1G45G                       |
|         | 1Gb     | MT25TL01GB  | 24-BGA                                     | Contact Macronix Sales           |
|         | 1Gb     | MT25TL01GH  | 24-BGA                                     | Contact Macronix Sales           |
|         | 1Gb     | MT35XL01GBB | 24-BGA                                     | MX66LM1G45G                      |
|         | 1Gb     | N25Q00AA13  | 16-SOP, 24-BGA                             | MX66L1G45G                       |
|         | 2Gb     | MT25QL02GC  | 24-BGA                                     | MX66L2G45G                       |
|         | 2Gb     | MT35XL02GCB | 24-BGA                                     | MX66LM2G45G                      |

## 2.5V Serial NOR Flash

| Density | Part Number | Packages                   | Recommended<br>Macronix Part No. |
|---------|-------------|----------------------------|----------------------------------|
| 512Kb   | M25P05      | 8-SOP                      | MX25V512F                        |
| 1Mb     | M25P10      | 8-SOP, 8-USON, 8-WSON, KGD | MX25V1006F                       |
| 4Mb     | M25P40      | 8-SOP, 8-USON, 8-WSON      | MX25V4006E                       |
| 16Mb    | M25PX16     | 8-SOP, 8-WSON, 24-BGA, KGD | MX25V1635F                       |

## 1.8V Serial NOR Flash

| Density | Part Number | Packages                             | Recommended<br>Macronix Part No. |
|---------|-------------|--------------------------------------|----------------------------------|
| 16Mb    | N25Q016A11  | 8-SOP, 8-WSON, XF-SCSP               | MX25U1635F                       |
| 16Mb    | N25Q016A21  | 8-SOP, 8-SON, 8-USON, 8-WLCSP        | MX25U1635F                       |
| 16Mb    | N25Q016A31  | 8-SOP, 8-SON, 8-USON, 8-WLCSP        | MX25U1635F                       |
| 16Mb    | N25Q016A41  | 8-SOP, 8-SON, 8-USON, 8-WLCSP        | MX25U1635F                       |
| 32Mb    | N25Q032A11  | 8-SOP, 8-USON, 8-WSON                | MX25U3235F                       |
| 32Mb    | N25Q032A21  | 8-SOP, 8-SON, 8-USON, 16-SOP, 24-BGA | MX25U3235F                       |
| 32Mb    | N25Q032A31  | 8-SOP, 8-SON, 8-USON, 16-SOP, 24-BGA | MX25U3235F                       |
| 32Mb    | N25Q032A41  | 8-SOP, 8-SON, 8-USON, 16-SOP, 24-BGA | MX25U3235F                       |
| 32Mb    | N25W032A    | 8-SOP, 8-SON                         | MX25U3235F                       |
| 64Mb    | N25Q064A11  | 8-SOP, 8-WSON, 24-BGA, XF-SCSP       | MX25U6435F                       |
| 64Mb    | N25Q064A21  | 8-SOP, 8-SON, 16-SOP, 24-BGA         | MX25U6435F                       |
| 64Mb    | N25Q064A31  | 8-SOP, 8-SON, 16-SOP, 24-BGA         | MX25U6435F                       |
| 64Mb    | N25Q064A41  | 8-SOP, 8-SON, 16-SOP, 24-BGA         | MX25U6435F                       |
| 128Mb   | MT25QU128A  | 8-SOP, 8-WSON, 16-SOP, 24-BGA, WLCSP | MX25U12835F                      |
| 128Mb   | N25Q128A11  | 8-SOP, 8-WSON, 16-SOP, 24-BGA, KGD   | MX25U12835F                      |
| 128Mb   | N25Q128A21  | 8-SOP, 8-SON, 16-SOP, 24-BGA         | MX25U12835F                      |
| 128Mb   | N25Q128A31  | 8-SOP, 8-SON, 16-SOP, 24-BGA         | MX25U12835F                      |
| 128Mb   | N25Q128A41  | 8-SOP, 8-SON, 16-SOP, 24-BGA         | MX25U12835F                      |
| 256Mb   | MT25QU256A  | 8-WSON, 16-SOP, 24-BGA, WLCSP        | MX25U25645G                      |
| 256Mb   | MT25TU256H  | 16-SOP                               | Contact Macronix Sales           |
| 256Mb   | N25Q256A11  | 8-WSON, 16-SOP, 24-BGA               | MX25U25645G                      |
| 256Mb   | N25Q256A21  | 8-SON, 16-SOP, 24-BGA                | MX25U25645G                      |
| 256Mb   | N25Q256A31  | 8-SON, 16-SOP, 24-BGA                | MX25U25645G                      |
| 256Mb   | N25Q256A41  | 8-SON, 16-SOP, 24-BGA                | MX25U25645G                      |
| 256Mb   | N25Q256A71  | 8-SON, 16-SOP, 24-BGA                | MX25U25645G                      |
| 256Mb   | N25Q256A81  | 16-SOP                               | MX25U25645G                      |
| 512Mb   | MT25QU512AB | 8-WSON, 16-SOP, WLCSP                | MX25U51245G                      |
| 512Mb   | MT25TU512H  | 24-BGA                               | Contact Macronix Sales           |
| 512Mb   | MT35XU512AB | 24-BGA                               | MX25UM51245G                     |
| 512Mb   | N25Q512A11  | 16-SOP, 24-BGA                       | MX25U51245G                      |
| 512Mb   | N25Q512A21  | 8-SON, 16-SOP, 24-BGA                | MX25U51245G                      |
| 512Mb   | N25Q512A31  | 8-SON, 16-SOP, 24-BGA                | MX25U51245G                      |
| 512Mb   | N25Q512A41  | 8-SON, 16-SOP, 24-BGA                | MX25U51245G                      |
| 512Mb   | N25Q512A71  | 8-SON, 16-SOP, 24-BGA                | MX25U51245G                      |
| 512Mb   | N25Q512A81  | 16-SOP                               | MX25U51245G                      |
| 1Gb     | MT25QU01GAB | 16-SOP, 24-BGA                       | MX66U1G45G                       |
| 1Gb     | MT25QU01GB  | 16-SOP, 24-BGA                       | MX66U1G45G                       |

## 1.8V Serial NOR Flash

| Density | Part Number | Packages       | Recommended<br>Macronix Part No. |
|---------|-------------|----------------|----------------------------------|
| 1Gb     | MT25TU01GH  | 16-SOP, 24-BGA | Contact Macronix Sales           |
| 1Gb     | MT35XU01GBB | 24-BGA         | MX66UM1G45G                      |
| 1Gb     | N25Q00AA11  | 16-SOP, 24-BGA | MX66U1G45G                       |
| 2Gb     | MT25QU02GAB | 16-SOP, 24-BGA | MX66U2G45G                       |
| 2Gb     | MT25QU02GC  | 24-BGA         | MX66U2G45G                       |
| 2Gb     | MT35XU02GCB | 24-BGA         | MX66UM2G45G                      |

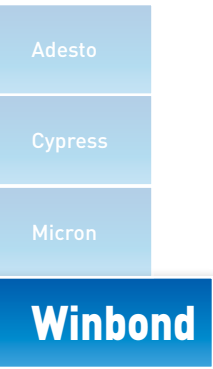
### Related package with different name

| Micron                   | Macronix    |
|--------------------------|-------------|
| SO                       | SOP         |
| xBGA                     | BGA         |
| U-PDFN / V-PDFN / W-PDFN | USON / WSON |

## 3V Serial NOR Flash

| Density | Part Number   | Packages                                              | Recommended<br>Macronix Part No. |
|---------|---------------|-------------------------------------------------------|----------------------------------|
| 1Mb     | W25X10BV      | 8-SOP, 8-WSON                                         | MX25V1006F                       |
| 2Mb     | W25X20BV      | 8-SOP, 8-WSON                                         | MX25L2006E                       |
| 2Mb     | W25X20CV      | 8-SOP, 8-VSOP, 8-USON, 8-WSON                         | MX25L2006E                       |
| 4Mb     | W25Q40BV      | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 8-USON                 | MX25L4006E                       |
| 4Mb     | W25Q40CV      | 8-SOP, 8-VSOP, 8-USON, 8-WSON                         | MX25V4035F                       |
| 4Mb     | W25X40BV      | 8-PDIP, 8-SOP, 8-WSON                                 | MX25L4006E                       |
| 4Mb     | W25X40CV      | 8-SOP, 8-VSOP, 8-USON, 8-WSON                         | MX25L4006E                       |
| 8Mb     | W25Q80BV      | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 8-USON                 | MX25V8035F                       |
| 8Mb     | W25Q80DV      | 8-SOP, 8-USON, 8-WSON                                 | MX25V8035F                       |
| 8Mb     | W25Q80JV      | 8-SOP, 8-USON, 8-VSOP, 8-WSON                         | MX25V8035F                       |
| 16Mb    | W25Q16CV      | 8-PDIP, 8-SOP, 8-WSON, 24-BGA                         | MX25V1635F                       |
| 16Mb    | W25Q16DV      | 8-PDIP, 8-SOP, 8-WSON, 24-BGA                         | MX25V1635F                       |
| 16Mb    | W25Q16JV      | 8-SOP, 8-USON, 8-WLCSOP, 8-WSON                       | MX25V1635F                       |
| 16Mb    | W25Q16JV-DTR  | 8-SOP, 8-USON, 8-WSON                                 | Contact Macronix Sales           |
| 32Mb    | W25Q32BV      | 8-PDIP, 8-SOP, 8-WSON, 16-SOP, 24-BGA                 | MX25L3233F                       |
| 32Mb    | W25Q32FV      | 8-PDIP, 8-SOP, 8-WSON, 16-SOP, 24-BGA                 | MX25L3233F                       |
| 32Mb    | W25Q32JV      | 8-PDIP, 8-SOP, 8-VSOP, 8-USON, 8-WSON, 16-SOP, 24-BGA | MX25L3233F                       |
| 32Mb    | W25Q32JV-DTR  | 8-SOP, 8-USON, 8-WSON, 16-SOP, 24-BGA                 | Contact Macronix Sales           |
| 32Mb    | W25X32V       | 8-PDIP, 8-SOP, 8-WSON, 16-SOP                         | MX25L3233F                       |
| 64Mb    | W25Q64BV      | 8-PDIP, 8-SOP, 8-WSON                                 | MX25L6433F                       |
| 64Mb    | W25Q64CV      | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 16-SOP, 24-BGA         | MX25L6433F                       |
| 64Mb    | W25Q64FV      | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 16-SOP, 24-BGA         | MX25L6433F                       |
| 64Mb    | W25Q64JV      | 8-SOP, 8-USON, 8-WSON, 16-SOP, 24-BGA                 | MX25L6433F                       |
| 64Mb    | W25Q64JV-DTR  | 8-SOP, 8-WSON, 16-SOP                                 | MX25L6445E                       |
| 64Mb    | W25R64FV      | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 16-SOP, 24-BGA         | MX25L6450F                       |
| 64Mb    | W25X64V       | 8-PDIP, 8-WSON, 16-SOP                                | MX25L6433F                       |
| 128Mb   | W25Q128BV     | 8-SOP, 8-VSOP, 8-WSON, 16-SOP, 24-BGA                 | MX25L12835F                      |
| 128Mb   | W25Q128FV     | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 16-SOP, 24-BGA         | MX25L12835F                      |
| 128Mb   | W25Q128JV     | 8-SOP, 8-WSON, 16-SOP, 24-BGA                         | MX25L12835F                      |
| 128Mb   | W25Q128JV-DTR | 8-SOP, 8-WSON, 16-SOP, 24-BGA                         | MX25L12835F                      |
| 128Mb   | W25R128FV     | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 16-SOP, 24-BGA         | MX25L12850F                      |
| 256Mb   | W25Q256FV     | 8-WSON, 16-SOP, 24-BGA                                | MX25L25645G                      |
| 256Mb   | W25Q256JV     | 8-WSON, 16-SOP, 24-BGA                                | MX25L25645G                      |
| 256Mb   | W25Q256JV-DTR | 8-WSON, 16-SOP, 24-BGA                                | MX25L25645G                      |
| 256Mb   | W25Q257FV     | 8-WSON, 16-SOP, 24-BGA                                | MX25L25735F                      |
| 256Mb   | W25Q257JV     | 8-WSON, 16-SOP                                        | MX25L25735F                      |
| 512Mb   | W25M512JV     | 8-WSON, 16-SOP, 24-BGA                                | MX25L51245G                      |
| 512Mb   | W25Q512JV     | 8-WSON, 16-SOP, 24-BGA                                | MX25L51245G                      |

## 2.5V Serial NOR Flash



| Density | Part Number | Packages                               | Recommended<br>Macronix Part No. |
|---------|-------------|----------------------------------------|----------------------------------|
| 512Kb   | W25X05CL    | 8-SOP, 8-TSSOP, 8-USON                 | MX25V512F                        |
| 1Mb     | W25X10AL    | 8-SOP, 8-WSON                          | MX25V1006F                       |
| 1Mb     | W25X10CL    | 8-SOP, 8-USON                          | MX25V1006F                       |
| 2Mb     | W25Q20CL    | 8-SOP, 8-VSOP, 8-USON, 8-WSON          | MX25V2035F                       |
| 2Mb     | W25X20AL    | 8-SOP, 8-WSON                          | MX25V2006E                       |
| 2Mb     | W25X20BL    | 8-SOP, 8-VSOP, 8-WSON, 8-USON          | MX25V2006E                       |
| 2Mb     | W25X20CL    | 8-SOP, 8-VSOP, 8-USON, 8-WSON          | MX25V2006E                       |
| 4Mb     | W25Q40BL    | 8-SOP, 8-WSON                          | MX25V4006E                       |
| 4Mb     | W25Q40CL    | 8-SOP, 8-USON                          | MX25V4035F                       |
| 4Mb     | W25X40AL    | 8-PDIP, 8-SOP, 8-WSON                  | MX25V4006E                       |
| 4Mb     | W25X40BL    | 8-PDIP, 8-SOP, 8-VSOP, 8-WSON, 8-USON  | MX25V4006E                       |
| 4Mb     | W25X40CL    | 8-SOP, 8-VSOP, 8-USON, 8-WSON          | MX25V4006E                       |
| 8Mb     | W25Q80BL    | 8-SOP, 8-VSOP, 8-USON, 8-WSON          | MX25V8035F                       |
| 8Mb     | W25Q80DL    | 8-SOP, 8-VSOP, 8-USON, 8-WSON, 8-WLCSP | MX25V8035F                       |
| 8Mb     | W25X80AL    | 8-PDIP, 8-SOP, 8-WSON                  | MX25V8035F                       |
| 16Mb    | W25Q16CL    | 8-SOP, 8-VSOP, 8-WSON                  | MX25V1635F                       |
| 16Mb    | W25Q16JL    | 8-SOP, 8-USON, 8-VSOP, 8-WSON          | MX25V1635F                       |

## 1.8V Serial NOR Flash

| Density | Part Number   | Packages                               | Recommended<br>Macronix Part No. |
|---------|---------------|----------------------------------------|----------------------------------|
| 1Mb     | W25Q10EW      | 8-SOP, 8-VSOP, 8-USON, 8-WLCSP         | MX25U1001E                       |
| 2Mb     | W25Q20BW      | 8-SOP, 8-VSOP, 8-USON, 8-WSON          | MX25U2033E                       |
| 2Mb     | W25Q20EW      | 8-SOP, 8-VSOP, 8-USON, 8-WLCSP         | MX25U2033E                       |
| 4Mb     | W25Q40BW      | 8-SOP, 8-VSOP, 8-USON, 8-WSON          | MX25U4033E                       |
| 4Mb     | W25Q40EW      | 8-SOP, 8-VSOP, 8-USON, 8-WSON, 8-WLCSP | MX25U4033E                       |
| 8Mb     | W25Q80BW      | 8-SOP, 8-VSOP, 8-WSON, 8-WLCSP         | MX25U8033E                       |
| 8Mb     | W25Q80EW      | 8-SOP, 8-VSOP, 8-USON, 8-WSON, 8-WLCSP | MX25U8033E                       |
| 16Mb    | W25Q16DW      | 8-SOP, 8-USON, 8-WSON, 8-WLCSP, 16-SOP | MX25U1635F                       |
| 16Mb    | W25Q16FW      | 8-SOP, 8-USON, 8-WSON, 8-WLCSP, 16-SOP | MX25U1635F                       |
| 32Mb    | W25Q32DW      | 8-SOP, 8-VSOP, 8-WSON, 16-SOP          | MX25U3235F                       |
| 32Mb    | W25Q32FW      | 8-SOP, 8-VSOP, 8-WLCSP, 8-WSON, 16-SOP | MX25U3235F                       |
| 64Mb    | W25Q64DW      | 8-SOP, 8-WSON, 16-SOP                  | MX25U6435F                       |
| 64Mb    | W25Q64FW      | 8-SOP, 8-VSOP, 8-WSON, 8-WLCSP         | MX25U6435F                       |
| 128Mb   | W25Q128FW     | 8-SOP, 8-VSOP, 8-WLCSP, 8-WSON, 16-SOP | MX25U12835F                      |
| 128Mb   | W25Q128JW     | 8-SOP, 8-WSON, 16-SOP                  | MX25U12835F                      |
| 256Mb   | W25Q256JW     | 8-WLCSP, 8-WSON, 16-SOP, 24-BGA        | MX25U25645G                      |
| 256Mb   | W25Q256JW-DTR | 8-WSON, 16-SOP, 24-BGA                 | MX25U25645G                      |

## Related package with different name

| Winbond       | Macronix |
|---------------|----------|
| WLBGA / WLCSP | WLCSP    |
| SOIC          | SOP      |
| xBGA          | BGA      |

# Macronix Parallel NOR Flash

**MX** **29GL** **512** **F** **H** **XF** **I** - **90** **G**

## DEVICE :

29F: 5V  
29LV/29GL/68GL: 3V  
29NS/29VS/29SL: 1.8V  
29LA/29GA/68GA : Security type

## OPTION :

G : RoHS Compliant  
Q : Restricted  
Vcc : (3.0V-3.6V),  
RoHS Compliant

## DENSITY :

20x : 2Mb  
40x/040 : 4Mb  
80x : 8Mb  
16x : 16Mb  
32x : 32Mb  
64x : 64Mb  
12x : 128Mb  
25x : 256Mb  
51x : 512Mb  
1Gx : 1Gb

## SPEED :

55 : 55ns  
70 : 70ns  
80 : 80ns  
90 : 90ns  
10 : 100ns  
11 : 110ns  
12 : 120ns

## GENERATION

## TEMPERATURE RANGE :

C : Commercial (0°C to 70°C)  
I : Industrial (-40°C to 85°C)  
J : Industrial (-40°C to 105°C )  
S : Automotive Grade 3 (-40°C to 85°C)  
R : Automotive Grade 2 (-40°C to 105°C)

## BLOCK TYPE :

T : Top Boot  
B : Bottom Boot  
H : Uniform Sector, Highest Address Sector Protected  
L : Uniform Sector, Lowest Address Sector Protected  
U : VI/O=1.65 to VCC, VCC=2.7 to 3.6V, Highest Address Sector Protected  
D : VI/O=1.65 to VCC, VCC=2.7 to 3.6V, Lowest Address Sector Protected

## PACKAGE TYPE :

M : SOP  
Q : PLCC  
T : TSOP  
X : BGA

**5V Parallel NOR Flash**

| Density | Part Number | Packages                 | Recommended<br>Macronix Part No. |
|---------|-------------|--------------------------|----------------------------------|
| 1Mb     | AM29F010B   | 32-PDIP, 32-TSOP         | Contact Macronix Sales           |
| 2Mb     | AM29F002B   | 44-SOP, 48-TSOP          | Contact Macronix Sales           |
| 2Mb     | AM29F200B   | 44-SOP, 48-TSOP          | MX29F200C                        |
| 4Mb     | AM29F040B   | 32-PDIP, 32-TSOP         | MX29F040C                        |
| 4Mb     | AM29F400B   | 44-SOP, 48-TSOP          | MX29F400C                        |
| 8Mb     | AM29F080B   | 40-TSOP, 44-SOP          | Contact Macronix Sales           |
| 8Mb     | AM29F800B   | 44-SOP, 48-TSOP, 48-FBGA | MX29F800C                        |
| 16Mb    | AM29F016D   | 40-TSOP, 44-SOP, 48-TSOP | Contact Macronix Sales           |
| 16Mb    | AM29F160D   | 48-TSOP                  | Contact Macronix Sales           |
| 32Mb    | AM29F032B   | 40-TSOP, 44-SOP          | Contact Macronix Sales           |

**3V Parallel NOR Flash**

| Density | Part Number | Packages                           | Recommended<br>Macronix Part No. |
|---------|-------------|------------------------------------|----------------------------------|
| 4Mb     | AM29LV040B  | 32-PLCC, 32-TSOP                   | MX29LV040C                       |
| 4Mb     | S29AL004D   | 44-SOP, 48-TSOP, 48-FBGA           | MX29LV400C                       |
| 8Mb     | S29AL008D   | 44-SOP, 48-TSOP, 48-FBGA           | MX29LV800C                       |
| 8Mb     | S29AL008J   | 48-FBGA, 48-TSOP                   | MX29LV800C                       |
| 16Mb    | AM29LV160D  | 48-TSOP, 48-TFBGA                  | MX29LV160D                       |
| 16Mb    | S29AL016D   | 44-SOP, 48-TSOP, 48-FBGA           | MX29LV160D                       |
| 16Mb    | S29AL016J   | 48-TSOP, 48-FBGA                   | MX29LV160D                       |
| 16Mb    | S29CL016J   | 80-FBGA, 80-PQFP                   | Contact Macronix Sales           |
| 32Mb    | S29AL032D   | 40-TSOP, 48-TSOP, 48-FBGA          | MX29LV320E                       |
| 32Mb    | S29CL032J   | 80-FBGA, 80-PQFP                   | Contact Macronix Sales           |
| 32Mb    | S29GL032N   | 48-TSOP, 48-FBGA, 56-TSOP, 64-FBGA | MX29GL320E                       |
| 32Mb    | S29JL032J   | 48-TSOP, 48-FBGA                   | Contact Macronix Sales           |
| 32Mb    | S29PL032J   | 48-FBGA, 56-FBGA                   | Contact Macronix Sales           |
| 64Mb    | S29GL064N   | 48-TSOP, 48-FBGA, 56-TSOP, 64-FBGA | MX29GL640E                       |
| 64Mb    | S29GL064S   | 48-TSOP, 48-FBGA, 56-TSOP, 64-FBGA | MX29GL640E                       |
| 64Mb    | S29JL064J   | 48-TSOP, 48-FBGA                   | Contact Macronix Sales           |
| 64Mb    | S29PL064J   | 48-FBGA, 56-FBGA                   | Contact Macronix Sales           |
| 128Mb   | S29GL128N   | 56-TSOP, 64-FBGA                   | MX29GL128F                       |
| 128Mb   | S29GL128P   | 56-TSOP, 64-FBGA                   | MX29GL128F                       |
| 128Mb   | S29GL128S   | 56-TSOP, 64-FBGA                   | MX29GL128F                       |
| 128Mb   | S29PL127J   | 56-TSOP, 64-FBGA, 80-FBGA          | Contact Macronix Sales           |
| 256Mb   | S29GL256N   | 56-TSOP, 64-FBGA                   | MX29GL256F                       |
| 256Mb   | S29GL256P   | 56-TSOP, 64-FBGA                   | MX29GL256F                       |
| 256Mb   | S29GL256S   | 56-TSOP, 64-FBGA                   | MX29GL256F                       |
| 512Mb   | S29GL512P   | 56-TSOP, 64-FBGA                   | MX29GL512F                       |
| 512Mb   | S29GL512S   | 56-TSOP, 64-FBGA                   | MX29GL512G                       |
| 512Mb   | S29GL512T   | 56-TSOP, 64-FBGA                   | MX29GL512G                       |
| 1Gb     | S29GL01GP   | 56-TSOP, 64-FBGA                   | MX68GL1G0F                       |
| 1Gb     | S29GL01GS   | 56-TSOP, 64-FBGA                   | MX68GL1G0G                       |
| 1Gb     | S29GL01GT   | 56-TSOP, 64-FBGA                   | MX68GL1G0G                       |
| 2Gb     | S70GL02GP   | 64-FBGA                            | Contact Macronix Sales           |
| 2Gb     | S70GL02GS   | 64-FBGA                            | Contact Macronix Sales           |
| 2Gb     | S70GL02GT   | 64-FBGA                            | Contact Macronix Sales           |

Cypress

Micron

Winbond

## 2.5V Parallel NOR Flash

| Density | Part Number | Packages         | Recommended<br>Macronix Part No. |
|---------|-------------|------------------|----------------------------------|
| 16Mb    | S29CD016J   | 80-FBGA, 80-PQFP | Contact Macronix Sales           |
| 32Mb    | S29CD032J   | 80-FBGA, 80-PQFP | Contact Macronix Sales           |

## 1.8V Parallel NOR Flash

| Density | Part Number | Packages                         | Recommended<br>Macronix Part No. |
|---------|-------------|----------------------------------|----------------------------------|
| 8Mb     | AM29SL800D  | 48-TSOP, 48-LFBGA, 48-TFBGA      | MX29SL800C                       |
| 8Mb     | S29AS008J   | 48-TSOP, 48-LFBGA, KGD           | MX29SL800C                       |
| 16Mb    | S29AS016J   | 48-TSOP, 48-LFBGA, 48-TFBGA, KGD | Contact Macronix Sales           |
| 64Mb    | S29VS064R   | 44-FBGA                          | Contact Macronix Sales           |
| 64Mb    | S29WS064R   | 84-FBGA                          | Contact Macronix Sales           |
| 64Mb    | S29XS064R   | 44-FBGA                          | Contact Macronix Sales           |
| 64Mb    | S71VS064R   | 52-BGA                           | Contact Macronix Sales           |
| 128Mb   | S29VS128R   | 44-FBGA                          | MX29VS128F                       |
| 128Mb   | S29WS128P   | 84-FBGA                          | MX29VS128F                       |
| 128Mb   | S29XS128R   | 44-FBGA                          | Contact Macronix Sales           |
| 128Mb   | S71VS128R   | 56-BGA                           | Contact Macronix Sales           |
| 256Mb   | S29VS256R   | 44-FBGA                          | Contact Macronix Sales           |
| 256Mb   | S29WS256P   | 84-FBGA                          | Contact Macronix Sales           |
| 256Mb   | S29XS256R   | 44-FBGA                          | Contact Macronix Sales           |
| 256Mb   | S71VS256R   | 56-BGA                           | Contact Macronix Sales           |
| 512Mb   | S29NS512P   | 64-FBGA                          | Contact Macronix Sales           |
| 512Mb   | S29WS512P   | 84-FBGA                          | Contact Macronix Sales           |

## 5V Parallel NOR Flash

| Density | Part Number | Packages        | Recommended<br>Macronix Part No. |
|---------|-------------|-----------------|----------------------------------|
| 2Mb     | M29F200F    | 44-SOP, 48-TSOP | MX29F200C                        |
| 4Mb     | M29F400F    | 44-SOP, 48-TSOP | MX29F400C                        |
| 8Mb     | M29F800F    | 44-SOP, 48-TSOP | MX29F800C                        |
| 16Mb    | M29F160F    | 48-TSOP         | Contact Macronix Sales           |

## 3V Parallel NOR Flash

| Density | Part Number   | Packages          | Recommended<br>Macronix Part No. |
|---------|---------------|-------------------|----------------------------------|
| 4Mb     | M29W400D      | 48-TSOP, 48-TFBGA | MX29LV400C                       |
| 4Mb     | M29W400F      | 48-TSOP, 48-TFBGA | MX29LV400C                       |
| 8Mb     | M29W800D      | 48-TSOP, 48-TFBGA | MX29LV800C                       |
| 8Mb     | M29W800F      | 48-TSOP, 48-TFBGA | MX29LV800C                       |
| 16Mb    | M28W160C      | 48-TSOP           | Contact Macronix Sales           |
| 16Mb    | M28W160E      | 46-TFBGA          | Contact Macronix Sales           |
| 16Mb    | M29W160E      | 48-TSOP, 48-TFBGA | MX29LV160D                       |
| 16Mb    | M58BW016F     | 80-PQFP           | Contact Macronix Sales           |
| 16Mb    | M58BW16F      | 80-LBGA, 80-PQFP  | Contact Macronix Sales           |
| 32Mb    | JR28F032M29EW | 48-TSOP           | MX29GL320E                       |
| 32Mb    | JS28F320J3    | 56-TSOP           | Contact Macronix Sales           |

## 3V Parallel NOR Flash

Cypress

**Micron**

Winbond

| Density | Part Number   | Packages                                     | Recommended<br>Macronix Part No. |
|---------|---------------|----------------------------------------------|----------------------------------|
| 32Mb    | M28F320FC     | 48-TSOP, 48-FBGA                             | Contact Macronix Sales           |
| 32Mb    | M28W320F      | 47-TFBGA, 48-TSOP                            | Contact Macronix Sales           |
| 32Mb    | M29DW323D     | 48-TSOP, 48-TFBGA                            | Contact Macronix Sales           |
| 32Mb    | M29W320D      | 48-TSOP, 48-TFBGA                            | MX29LV320E                       |
| 32Mb    | M29W320E      | 48-TSOP, 48-TFBGA                            | MX29LV320E                       |
| 32Mb    | M58BW32F      | 80-LBGA, 80-PQFP                             | Contact Macronix Sales           |
| 32Mb    | PC28F320J3    | 64-Easy BGA                                  | Contact Macronix Sales           |
| 32Mb    | PZ28F032M29EW | 48-BGA                                       | MX29GL320E                       |
| 64Mb    | JR28F064M29EW | 48-TSOP                                      | MX29GL640E                       |
| 64Mb    | JS28F064M29EW | 56-TSOP                                      | MX29GL640E                       |
| 64Mb    | JS28F640J3    | 56-TSOP                                      | Contact Macronix Sales           |
| 64Mb    | M28F640FC     | 48-TSOP, 48-FBGA                             | Contact Macronix Sales           |
| 64Mb    | M28F640HC     | 48-TSOP, 48-FBGA                             | Contact Macronix Sales           |
| 64Mb    | M28W640H      | 48-TSOP, 48-TFBGA                            | Contact Macronix Sales           |
| 64Mb    | M29W640F      | 48-TSOP, 48-TFBGA                            | MX29LV640E                       |
| 64Mb    | M29W640G      | 48-TSOP, 48-TFBGA, 56-TSOP, 64-FBGA, 64-TBGA | MX29GL640E                       |
| 64Mb    | PC28F064M29EW | 64-FBGA                                      | MX29GL640E                       |
| 64Mb    | PC28F640J3    | 64-Easy BGA                                  | Contact Macronix Sales           |
| 64Mb    | PZ28F064M29EW | 48-BGA                                       | MX29GL640E                       |
| 128Mb   | JS28F128J3    | 56-TSOP                                      | Contact Macronix Sales           |
| 128Mb   | JS28F128M29EW | 56-TSOP                                      | MX29GL128F                       |
| 128Mb   | M29DW127G     | 56-TSOP                                      | Contact Macronix Sales           |
| 128Mb   | M29DW128G     | 56-TSOP, 64-TBGA                             | Contact Macronix Sales           |
| 128Mb   | M29W128G      | 56-TSOP, 64-FBGA, 64-TBGA                    | MX29GL128F                       |
| 128Mb   | MT28EW128A    | 56-TSOP, 56-VFBGA, 64-LBGA                   | MX29GL128F                       |
| 128Mb   | PC28F128J3    | 64-Easy BGA                                  | Contact Macronix Sales           |
| 128Mb   | PC28F128M29EW | 64-FBGA                                      | MX29GL128F                       |
| 128Mb   | RC28F128M29EW | 64-FBGA                                      | MX29GL128F                       |
| 256Mb   | JS28F256J3    | 56-TSOP                                      | Contact Macronix Sales           |
| 256Mb   | JS28F256M29EW | 56-TSOP                                      | MX29GL256F                       |
| 256Mb   | M29W256G      | 56-TSOP, 64-FBGA, 64-TBGA                    | MX29GL256F                       |
| 256Mb   | MT28EW256A    | 56-TSOP, 56-VFBGA, 64-LBGA                   | MX29GL256F                       |
| 256Mb   | PC28F256J3    | 64-Easy BGA                                  | Contact Macronix Sales           |
| 256Mb   | PC28F256M29EW | 64-FBGA                                      | MX29GL256F                       |
| 256Mb   | RC28F256J3    | 64-Easy BGA                                  | Contact Macronix Sales           |
| 256Mb   | RC28F256M29EW | 64-FBGA                                      | MX29GL256F                       |
| 512Mb   | JS28F512M29EW | 56-TSOP                                      | MX29GL512F                       |
| 512Mb   | M29W512G      | 56-TSOP                                      | MX29GL512F                       |
| 512Mb   | MT28EW512A    | 56-TSOP, 56-VFBGA, 64-LBGA                   | MX29GL512F                       |
| 512Mb   | MT28FW512A    | 56-TSOP, 56-VFBGA, 64-LBGA                   | MX29GL512F                       |
| 512Mb   | PC28F512M29EW | 64-FBGA                                      | MX29GL512F                       |
| 512Mb   | RC28F512M29EW | 64-FBGA                                      | MX29GL512F                       |
| 1Gb     | JS28F00AM29EW | 56-TSOP                                      | MX68GL1G0F                       |
| 1Gb     | MT28EW01GA    | 56-TSOP, 64-LBGA                             | MX68GL1G0F                       |
| 1Gb     | MT28FW01GA    | 56-TSOP, 64-LBGA                             | MX68GL1G0F                       |
| 1Gb     | PC28F00AM29EW | 64-FBGA                                      | MX68GL1G0F                       |
| 1Gb     | RC28F00AM29EW | 64-FBGA                                      | MX68GL1G0F                       |
| 2Gb     | PC28F00BM29EW | 64-FBGA                                      | Contact Macronix Sales           |

## 2.5V Parallel NOR Flash

| Density | Part Number | Packages    | Recommended<br>Macronix Part No. |
|---------|-------------|-------------|----------------------------------|
| 64Mb    | JS28F640P33 | 56-TSOP     | Contact Macronix Sales           |
| 64Mb    | PC28F640P33 | 64-Easy BGA | Contact Macronix Sales           |
| 128Mb   | JS28F128P33 | 56-TSOP     | Contact Macronix Sales           |
| 128Mb   | PC28F128P33 | 64-Easy BGA | Contact Macronix Sales           |
| 512Mb   | JS28F512P33 | 56-TSOP     | Contact Macronix Sales           |
| 512Mb   | PC28F512P33 | 64-Easy BGA | Contact Macronix Sales           |
| 512Mb   | PC48F4400P0 | 64-Easy BGA | Contact Macronix Sales           |
| 1Gb     | JS28F00AP33 | 56-TSOP     | Contact Macronix Sales           |
| 1Gb     | PC28F00AP33 | 64-Easy BGA | Contact Macronix Sales           |

## 1.8V Parallel NOR Flash

| Density | Part Number | Packages                     | Recommended<br>Macronix Part No. |
|---------|-------------|------------------------------|----------------------------------|
| 32Mb    | M58WR032K   | 44-VFBGA, 56-VFBGA, 56-WFBGA | Contact Macronix Sales           |
| 64Mb    | JS28F640P30 | 56-TSOP                      | Contact Macronix Sales           |
| 64Mb    | M58WR064K   | 44-VFBGA, 56-VFBGA           | Contact Macronix Sales           |
| 64Mb    | PC28F640P30 | 64-Easy BGA                  | Contact Macronix Sales           |
| 128Mb   | JS28F128P30 | 56-TSOP                      | Contact Macronix Sales           |
| 128Mb   | PC28F128G18 | 64-Easy BGA                  | Contact Macronix Sales           |
| 128Mb   | PC28F128P30 | 64-Easy BGA                  | Contact Macronix Sales           |
| 256Mb   | JS28F256P30 | 56-TSOP                      | Contact Macronix Sales           |
| 256Mb   | MT28GU256A  | 64-TBGA                      | Contact Macronix Sales           |
| 256Mb   | PC28F256G18 | 64-Easy BGA                  | Contact Macronix Sales           |
| 512Mb   | JS28F512P30 | 56-TSOP                      | Contact Macronix Sales           |
| 512Mb   | MT28GU512A  | 64-TBGA                      | Contact Macronix Sales           |
| 512Mb   | PC28F512G18 | 64-Easy BGA                  | Contact Macronix Sales           |
| 512Mb   | PC28F512P30 | 64-Easy BGA                  | Contact Macronix Sales           |
| 1Gb     | JS28F00AP30 | 56-TSOP                      | Contact Macronix Sales           |
| 1Gb     | MT28GU01GA  | 64-TBGA                      | Contact Macronix Sales           |
| 1Gb     | PC28F00AG18 | 64-Easy BGA                  | Contact Macronix Sales           |
| 1Gb     | PC28F00AP30 | 64-Easy BGA                  | Contact Macronix Sales           |

## 3V Parallel NOR Flash

| Density | Part Number | Packages                             | Recommended<br>Macronix Part No. |
|---------|-------------|--------------------------------------|----------------------------------|
| 32Mb    | W29GL032C   | 48-TSOP, 48-TFBGA, 56-TSOP, 64-LFBGA | MX29GL320E                       |
| 64Mb    | W29GL064C   | 48-TSOP, 48-TFBGA, 56-TSOP, 64-LFBGA | MX29GL640E                       |
| 128Mb   | W29GL128C   | 56-TSOP, 64-LFBGA                    | MX29GL128F                       |
| 128Mb   | W29GL128S   | 56-TSOP, 56-TFBGA, 64-LFBGA          | MX29GL128F                       |
| 256Mb   | W29GL256P   | 56-TSOP, 64-LFBGA                    | MX29GL256F                       |
| 256Mb   | W29GL256S   | 56-TSOP, 56-TFBGA, 64-LFBGA          | MX29GL256F                       |
| 512Mb   | W29GL512P   | 56-TSOP, 64-LFBGA                    | MX29GL512F                       |
| 512Mb   | W29GL512S   | 56-TSOP, 56-TFBGA, 64-LFBGA          | MX29GL512G                       |

# Macronix NAND Flash

MX 30 L F 1G 08 A A - XK I x

## TYPE :

30 : SLC NAND Flash  
60 : SLC NAND Flash (stacked die)  
35 : SLC Serial NAND Flash

## VOLTAGE :

L : 2.7V-3.6V  
U : 1.7V-1.95V

## CLASSIFICATION :

F: SLC+Large Block

## DENSITY :

12 : 512Mb  
1G : 1Gb  
2G : 2Gb  
4G : 4Gb  
8G : 8Gb

## ECC :

0 : 1bit (2bit in Automotive Grade)  
1 : 4bit  
2 : 8bit  
E : ECC-free

## Bus Width :

4 : x4  
8 : x8  
6 : x16

## RESERVED

## OPERATING TEMPERATURE :

I : Industrial (-40°C to 85°C)  
J : Industrial (-40°C to 105°C)  
S : Automotive Grade 3  
(-40°C to 85°C)  
R : Automotive Grade 2  
(-40°C to 105°C)

## PACKAGE TYPE :

M : 16-SOP (300mil)  
T : 48-TSOP (12x20mm)  
XK : 63-VFBGA (9x11mm)  
XQ : 48-VFBGA (6x8mm)  
Z2/Z4 : 8-WSON (8x6mm)

## GENERATION

## MODE :

A : Die#, CE#:1, R/B#:1  
S : Die#, CE#:1, R/B#:1;  
Security feature supported

**3V SLC NAND Flash**

| Density | Part Number | Packages                | Recommended<br>Macronix Part No. |
|---------|-------------|-------------------------|----------------------------------|
| 1Gb     | S34ML01G1   | 48-TSOP, 63-BGA         | MX30LF1G18AC                     |
| 1Gb     | S34ML01G2   | 48-TSOP, 63-BGA, 67-BGA | MX30LF1G18AC                     |
| 1Gb     | S34SL01G2   | 63-BGA                  | MX30LF1G18SC                     |
| 2Gb     | S34ML02G1   | 48-TSOP, 63-BGA         | MX30LF2G18AC                     |
| 2Gb     | S34ML02G2   | 48-TSOP, 63-BGA         | MX30LF2G18AC                     |
| 2Gb     | S34SL02G2   | 63-BGA                  | MX30LF2G18SC                     |
| 4Gb     | S34ML04G1   | 48-TSOP, 63-BGA         | MX30LF4G18AC                     |
| 4Gb     | S34ML04G2   | 48-TSOP, 63-BGA         | MX30LF4G18AC                     |
| 4Gb     | S34SL04G2   | 63-BGA                  | MX30LF4G18SC                     |
| 8Gb     | S34ML08G1   | 48-TSOP, 63-BGA         | MX60LF8G18AC                     |
| 8Gb     | S34ML08G2   | 48-TSOP, 63-BGA         | MX60LF8G18AC                     |

**1.8V SLC NAND Flash**

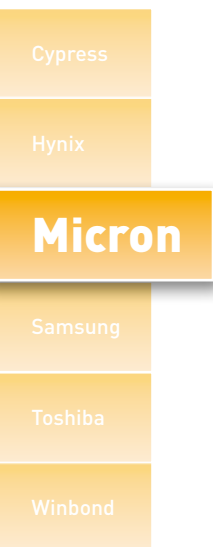
| Density | Part Number | Packages                | Recommended<br>Macronix Part No. |
|---------|-------------|-------------------------|----------------------------------|
| 1Gb     | S34MS01G1   | 63-BGA                  | MX30UF1G16AC,<br>MX30UF1G18AC    |
| 1Gb     | S34MS01G2   | 48-TSOP, 63-BGA, 67-BGA | MX30UF1G16AC,<br>MX30UF1G18AC    |
| 2Gb     | S34MS02G1   | 48-TSOP, 63-BGA         | MX30UF2G16AC,<br>MX30UF2G18AC    |
| 2Gb     | S34MS02G2   | 48-TSOP, 63-BGA         | MX30UF2G16AC,<br>MX30UF2G18AC    |
| 4Gb     | S34MS04G1   | 48-TSOP, 63-BGA         | MX30UF4G16AB,<br>MX30UF4G18AB    |
| 4Gb     | S34MS04G2   | 48-TSOP, 63-BGA         | MX30UF4G16AB,<br>MX30UF4G18AB    |

**3V SLC NAND Flash**

| Density | Part Number | Packages   | Recommended<br>Macronix Part No. |
|---------|-------------|------------|----------------------------------|
| 512Mb   | H27U518S2C  | TSOP       | MX30LF1208AA                     |
| 1Gb     | H27U1G8F2B  | TSOP, FBGA | MX30LF1G18AC                     |
| 1Gb     | H27U1G8F2C  | TSOP       | MX30LF1G18AC                     |
| 2Gb     | H27U2G8F2C  | TSOP       | MX30LF2G18AC                     |
| 2Gb     | H27U2G8F2D  | TSOP       | MX30LF2G18AC                     |
| 4Gb     | H27U4G8F2D  | TSOP       | MX30LF4G18AC                     |
| 4Gb     | H27U4G8F2E  | TSOP       | MX30LF4G18AC                     |
| 4Gb     | H27U4G8F2F  | TSOP       | MX30LF4G18AC                     |
| 8Gb     | H27U8G8G5D  | TSOP       | MX60LF8G18AC                     |

**1.8V SLC NAND Flash**

| Density | Part Number | Packages | Recommended<br>Macronix Part No. |
|---------|-------------|----------|----------------------------------|
| 1Gb     | H27S1G8F2B  | FBGA     | MX30UF1G18AC                     |
| 1Gb     | H27S1G8F2C  | FBGA     | MX30UF1G18AC                     |
| 2Gb     | H27S2G8F2C  | FBGA     | MX30UF2G18AC                     |
| 4Gb     | H27S4G8F2F  | TSOP     | MX30UF4G18AB                     |



## 3V SLC NAND Flash

| Density | Part Number     | Packages                              | Recommended<br>Macronix Part No. |
|---------|-----------------|---------------------------------------|----------------------------------|
| 128Mb   | NAND128W3A0B    | 48-TSOP                               | Contact Macronix Sales           |
| 128Mb   | NAND128W3A2B    | 48-TSOP                               | Contact Macronix Sales           |
| 128Mb   | NAND128W3AAB    | 48-TSOP                               | Contact Macronix Sales           |
| 256Mb   | NAND256W3A0B    | 48-TSOP                               | Contact Macronix Sales           |
| 256Mb   | NAND256W3A2B    | 48-TSOP, 48-VFBGA, 48-WFBGA, 55-VFBGA | Contact Macronix Sales           |
| 512Mb   | NAND512W3A2S    | 48-TSOP, 63-VFBGA                     | MX30LF1208AA                     |
| 1Gb     | MT29F1G08ABADA  | 48-TSOP, 63-VFBGA                     | MX30LF1G18AC                     |
| 1Gb     | MT29F1G08ABAEA  | 48-TSOP, 63-VFBGA, KGD                | MX30LF1G18AC                     |
| 1Gb     | MT29F1G08ABAF A | 63-VFBGA                              | MX30LF1G18AC                     |
| 2Gb     | MT29F2G08ABAEA  | 48-TSOP, 63-VFBGA                     | MX30LF2G18AC                     |
| 2Gb     | MT29F2G08ABAF A | 48-TSOP, 63-VFBGA                     | MX30LF2G18AC                     |
| 2Gb     | MT29F2G08ABAGA  | 48-TSOP, 63-VFBGA                     | MX30LF2G18AC                     |
| 4Gb     | MT29F4G08ABADA  | 48-TSOP, 63-VFBGA, KGD                | MX30LF4G18AC                     |
| 4Gb     | MT29F4G08ABAEA  | 48-TSOP, 63-VFBGA                     | MX30LF4G18AC                     |
| 8Gb     | MT29F8G08ABABA  | 48-TSOP, KGD                          | MX60LF8G18AC                     |
| 8Gb     | MT29F8G08ABACA  | 48-TSOP, KGD                          | MX60LF8G18AC                     |
| 8Gb     | MT29F8G08ADADA  | 63-VFBGA                              | MX60LF8G18AC                     |

## 1.8V SLC NAND Flash

| Density | Part Number     | Packages      | Recommended<br>Macronix Part No. |
|---------|-----------------|---------------|----------------------------------|
| 512Mb   | NAND512R3A2S    | 63-VFBGA      | Contact Macronix Sales           |
| 1Gb     | MT29F1G08ABBDA  | 63-VFBGA      | MX30UF1G18AC                     |
| 1Gb     | MT29F1G08ABBEA  | 63-VFBGA, KGD | MX30UF1G18AC                     |
| 1Gb     | MT29F1G08ABBFA  | 63-VFBGA      | MX30UF1G18AC                     |
| 1Gb     | MT29F1G08AB BHC | 63-VFBGA      | MX30UF1G18AC                     |
| 1Gb     | MT29F1G16ABBDA  | 63-VFBGA      | MX30UF1G16AC                     |
| 1Gb     | MT29F1G16ABBEA  | 63-VFBGA      | MX30UF1G16AC                     |
| 2Gb     | MT29F2G08ABBEA  | 63-VFBGA      | MX30UF2G18AC                     |
| 2Gb     | MT29F2G08ABBFA  | 63-VFBGA      | MX30UF2G18AC                     |
| 2Gb     | MT29F2G08AB BGA | 63-VFBGA      | MX30UF2G18AC                     |
| 2Gb     | MT29F2G16ABBEA  | 63-VFBGA, KGD | MX30UF2G16AC                     |
| 2Gb     | MT29F2G16ABBFA  | 63-VFBGA      | MX30UF2G16AC                     |
| 4Gb     | MT29F4G08ABBDA  | 63-VFBGA, KGD | MX30UF4G18AB                     |
| 4Gb     | MT29F4G08ABBEA  | 63-VFBGA      | MX30UF4G18AB                     |
| 4Gb     | MT29F4G16ABBDA  | 63-VFBGA      | MX30UF4G16AB                     |
| 4Gb     | MT29F4G16ABBEA  | 63-VFBGA      | MX30UF4G16AB                     |

## 3V Serial NAND Flash

| Density | Part Number     | Packages       | Recommended<br>Macronix Part No. |
|---------|-----------------|----------------|----------------------------------|
| 1Gb     | MT29F1G01AAADD  | 63-VFBGA       | MX35LF1GE4AB                     |
| 1Gb     | MT29F1G01ABAFD  | 8-USON, 16-SOP | MX35LF1GE4AB                     |
| 2Gb     | MT29F2G01AA AED | 63-VFBGA       | MX35LF2GE4AB                     |
| 2Gb     | MT29F2G01ABAGD  | 8-USON, 16-SOP | MX35LF2GE4AB                     |

## 3V SLC NAND Flash

|                | Density | Part Number | Packages   | Recommended<br>Macronix Part No. |
|----------------|---------|-------------|------------|----------------------------------|
| Cypress        | 1Gb     | K9F1G08U0D  | TSOP, FBGA | MX30LF1G18AC                     |
| Hynix          | 1Gb     | K9F1G08U0E  | TSOP, FBGA | MX30LF1G18AC                     |
|                | 2Gb     | K9F2G08U0C  | TSOP, FBGA | MX30LF2G18AC                     |
| Micron         | 4Gb     | K9F4G08U0D  | TSOP       | MX30LF4G18AC                     |
|                | 4Gb     | K9F4G08U0E  | TSOP       | MX30LF4G18AC                     |
|                | 8Gb     | K9K8G08U0D  | TSOP       | MX60LF8G18AC                     |
|                | 8Gb     | K9K8G08U0E  | TSOP       | MX60LF8G18AC                     |
| <b>Samsung</b> |         |             |            |                                  |
| Toshiba        |         |             |            |                                  |
| Winbond        |         |             |            |                                  |

## 3V SLC NAND Flash

|                | Density    | Part Number | Packages                  | Recommended<br>Macronix Part No. |
|----------------|------------|-------------|---------------------------|----------------------------------|
| Cypress        | 512Mb      | TC58NVM9S3E | 48-TSOP, 63-BGA, 67-BGA   | MX30LF1208AA                     |
| Hynix          | 1Gb        | TC58BVG0S3H | 48-TSOP, 63-FBGA, 67-FBGA | MX30LF1GE8AB                     |
|                | 1Gb        | TC58DVG02D5 | 48-TSOP, 63-BGA, 67-BGA   | Contact Macronix Sales           |
| Micron         | 1Gb        | TC58NVG0S3H | 48-TSOP, 63-FBGA, 67-FBGA | Contact Macronix Sales           |
|                | 2Gb        | TC58BVG1S3H | 48-TSOP, 63-FBGA, 67-FBGA | MX30LF2GE8AB                     |
|                | 2Gb        | TC58NVG1S3E | 48-TSOP, 63-BGA           | MX30LF2G18AC                     |
|                | 2Gb        | TC58NVG1S3H | 48-TSOP, 63-FBGA, 67-FBGA | Contact Macronix Sales           |
| Samsung        | 4Gb        | TC58BVG2S0F | 48-TSOP, 63-BGA           | MX30LF4G18AC                     |
|                | 4Gb        | TC58BVG2S0H | 48-TSOP, 63-FBGA, 67-FBGA | MX30LF4GE8AB                     |
| <b>Toshiba</b> | 4Gb        | TC58NVG2S0F | 48-TSOP, 63-BGA           | MX30LF4G18AC                     |
|                | 4Gb        | TC58NVG2S0H | 48-TSOP, 63-FBGA, 67-FBGA | Contact Macronix Sales           |
|                | 4Gb        | TC58NVG2S3E | 48-TSOP, 63-BGA           | MX30LF4G18AC                     |
| Winbond        | 8G(4Gb x2) | TH58NVG3S0H | 48-TSOP, 63-FBGA, 67-FBGA | Contact Macronix Sales           |

## 1.8V SLC NAND Flash

|  | Density | Part Number | Packages         | Recommended<br>Macronix Part No. |
|--|---------|-------------|------------------|----------------------------------|
|  | 1Gb     | TC58NYG0S3H | 63-FBGA, 67-FBGA | Contact Macronix Sales           |
|  | 2Gb     | TC58BYG1S3H | 63-FBGA, 67-FBGA | MX30UF2GE8AB                     |
|  | 2Gb     | TC58NYG1S3E | 63-BGA           | MX30UF2G18AC                     |
|  | 2Gb     | TC58NYG1S3H | 63-FBGA, 67-FBGA | Contact Macronix Sales           |
|  | 4Gb     | TC58BYG2S0F | 63-BGA           | Contact Macronix Sales           |
|  | 4Gb     | TC58BYG2S0H | 63-FBGA, 67-FBGA | MX30UF4GE8AB                     |
|  | 4Gb     | TC58NYG2S0F | 63-BGA           | MX30UF4G18AB,<br>MX30UF4G28AB    |
|  | 4Gb     | TC58NYG2S0H | 63-FBGA, 67-FBGA | Contact Macronix Sales           |
|  | 4Gb     | TC58NYG2S3E | 63-BGA           | MX30UF4G18AB,<br>MX30UF4G28AB    |

## 3V Serial NAND Flash

|                | Density | Part Number | Packages       | Recommended<br>Macronix Part No. |
|----------------|---------|-------------|----------------|----------------------------------|
| Cypress        | 1Gb     | TC58CVG0S3H | 8-WSON, 16-SOP | MX35LF1GE4AB                     |
| Hynix          | 2Gb     | TC58CVG1S3H | 8-WSON, 16-SOP | MX35LF2GE4AB                     |
| Micron         |         |             |                |                                  |
| Samsung        |         |             |                |                                  |
| <b>Toshiba</b> |         |             |                |                                  |
| Winbond        |         |             |                |                                  |

## 3V SLC NAND Flash

|         | Density | Part Number | Packages        | Recommended<br>Macronix Part No. |
|---------|---------|-------------|-----------------|----------------------------------|
| Cypress | 1Gb     | W29N01GV    | 48-TSOP, 48-BGA | MX30LF1G18AC                     |
| Hynix   | 1Gb     | W29N01HV    | 48-TSOP, 48-BGA | MX30LF1G18AC                     |
|         | 2Gb     | W29N02GV    | 48-TSOP, 63-BGA | MX30LF2G18AC                     |
| Micron  | 4Gb     | W29N04GV    | 48-TSOP, 63-BGA | MX30LF4G18AC                     |
|         | 8Gb     | W29N08GV    | 48-TSOP, 63-BGA | MX60LF8G18AC                     |

## 1.8V SLC NAND Flash

|  | Density | Part Number | Packages                | Recommended<br>Macronix Part No. |
|--|---------|-------------|-------------------------|----------------------------------|
|  | 1Gb     | W29N01GW    | 48-BGA                  | MX30UF1G18AC                     |
|  | 1Gb     | W29N01GZ    | 48-BGA                  | MX30UF1G18AC                     |
|  | 1Gb     | W29N01HW    | 48-TSOP, 48-BGA, 63-BGA | MX30UF1G16AC                     |
|  | 1Gb     | W29N01HZ    | 48-TSOP, 48-BGA, 63-BGA | MX30UF1G18AC                     |
|  | 2Gb     | W29N02GW    | 63-BGA                  | MX30UF2G18AC                     |
|  | 2Gb     | W29N02GZ    | 63-BGA                  | MX30UF2G18AC                     |
|  | 4Gb     | W29N04GZ    | 63-BGA                  | MX30UF4G18AB                     |

## 3V Serial NAND Flash

|  | Density | Part Number | Packages         | Recommended<br>Macronix Part No. |
|--|---------|-------------|------------------|----------------------------------|
|  | 1Gb     | W25N01GV    | 8-WSON, 24-TFBGA | MX35LF1GE4AB                     |
|  | 2Gb     | W25M02GV    | 8-WSON, 24-TFBGA | MX35LF2GE4AB                     |
|  | 2Gb     | W25N02GV    | 8-WSON, 24-TFBGA | MX35LF2GE4AB                     |

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