SpecTek Flash Part Numbering System

Last Updated: 08/17/2010

FN	N	L52A	H	G	K	3	B	A	A	WP	-	AF		
FN	N	L63A	5	1	K	3	B	A	B	WP	-	AF	15	

For the previous marketing part number, see the next page.

SpecTek Memory
FN, FT, FB = SpecTek

Product Marking
Internal code for Laser Marker. Not applicable for customers.

Cell Technology
M = Single-level cell
L = Multiple-level cell

Density

For 20 - 50 series: Functional Density*

1G= 1.0Gib	8G= 8.0Gib
18= 1.8Gib	F8= 15.8Gib
2G= 2.0Gib	HG= 16.0Gib
38= 3.8Gib	31= 31.0Gib
4G= 4.0Gib	32= 32.0Gib
78= 7.8Gib	64= 64.0Gib

For 60 - 70 series:*
Parent Density (2^N In Gigabits)

1= 2Gib	5= 32Gib
2= 4Gib	6= 64Gib
3= 8Gib	7= 128Gib
4= 16Gib	8= 256Gib

Density Grade
1 = 100% Parent Density
9 = 90% Parent Density
6 = 60% Parent Density
5 = 50% Parent Density

Configuration
K = x8
L = x16
H = x1

Voltage

	Vcc	VccQ	VssQ
1 =	1.8V	not used	not used
3 =	3.3V	not used	not used
D =	3.3V	1.8V / 3.3V	0V
S =	3.3V	3.3V	0V

Speed Grade (Synchronous)
Blank if no speed grade defined
20 = 100MT/s
15 = 133MT/s
12 = 166MT/s

Grade and Product Definition

-AL = Full spec w/ tighter requirements	-S3 = 3rd Pass
-AF = Full Spec	-S7 = Untested Settle&Ship
-AR = Relaxed Spec	-ES = Engineering Sample
-AT = One Time Programmable	-HP = Single Plane
-AA = No READ ID feature	-SG = Guardband Failure

Package Code
WP = 48-pin TSOP-1 Center Package Leads (CPL) PB free
WC = 48-pin TSOP-1 Off-center Package Leads (OCPL) PB free
HC = 63-ball VFBGA 10.5 x 13 x 1.0
C3 = 52-pad ULGA 12 x 17 x 0.65
C4 = 52-pad VLGA 12 x 17 x 1.0 (SPD/DDP/QDP)
C5 = 52-pad VLGA 14 x 18 x 1.0 (SPD/DDP/QDP)
C6 = 52-pad LLGA 14 x 18 x 1.47 (DDP/QDP/8DP)
C7 = 48-pad LLGA 12 x 20 x 1.47 (8DP)
C8 = 52-pad WLGA 14 x 18 x 0.75 (DDP/QDP)
H1 = 100-ball VBGA, 12 x 18 x 1.0 PB free
H2 = 100-ball TBGA, 12 x 18 x 1.2 PB free
H3 = 100-ball LBGA, 12 x 18 x 1.4 PB free (DDP/QDP/8DP)
H4 = 63-ball VFBGA, 9 x 11 x 1.0

Interface

Mark	Interface
A	Async only
B	Sync only
D	SPI

Package Functionality Partial Type
A = All CE(s) are valid and usable
B = CE1 Valid, CE2 not guaranteed
C = CE2 Valid, CE1 not guaranteed

Package Configuration Type

Code	# Die	# CE Pins	Seperate I/O
A	1	0	No
B	1	1	No
C	2	0	No
D	2	1	No
E	2	2	Yes
F	2	2	No
H	4	1	No
J	4	2	No
K	4	2	Yes
L	4	4	No
M	4	4	Yes
N	4+4	2+2	No
P	8	1	No
Q	8	2	No
R	8	2	Yes
T	8	4	No
U	8	4	Yes

Old SpecTek Flash Part Numbering System

Last Updated: 12/01/09

FNN	L52*A	H	G	K	3	WG	- AF
FNN	L63*A	5	1	K	3	WG	- AF

F= SpecTek

Product Family
B, N, T= SpecTek NAND Flash

Product Marking
Internal code for Laser mark. Not applicable for customers.

Cell Technology
M= Single-level cell
L= Multiple-level cell

Design Generation
(Consult factory)

Density
For 20, 40, 50 series: Functional Density*

1G= 1.0 Gib	8G= 8.0 Gib
18= 1.8 Gib	F8= 15.8 Gib
2G= 2.0 Gib	HG= 16.0 Gib
38= 3.8 Gib	31= 31.0 Gib
4G= 4.0 Gib	32= 32.0 Gib
78= 7.8 Gib	64= 64.0 Gib

For 60 -70 series*

Parent Density (2^N in Gigabits)

1= 2 Gib	5= 32 Gib
2= 4 Gib	6= 64 Gib
3= 8 Gib	7= 128 Gib
4= 16 Gib	8= 256 Gib
NA= Unavailable	

Density Grade
1= 100% of Parent Density
9= 90% of Parent Density
6= 60% of Parent Density
5= 50% of Parent Density

Configuration
K= x8 L= x16 H= x1

Grade and Product Definition

-AL= Full Spec Lexar	-SS= Settle & Ship
-AF= Full Spec	-S3= 3rd Pass
-AR= Relaxed Spec	-S7= Untested Settle & Ship
-AT= One Time Programmable	-ES= Engineering Sample
-AC= No Cache Feature	-HP= Single Plane
-AW= No Write Protect Feature	-SJ= 1st Step Failure
-AA= No READ ID Feature	-SG= Guardband Failure

Package Functionality
G= Single Die Package, CE only
1= Dual Die Package, CE1 functional only
2= Dual Die Package, CE1 and CE2 functional
3= Dual Die Package, CE3 functional only
4= Quad Die Package, CE1 and CE2 functional
5= Quad Die Package, CE1 functional only
6= Quad Die Package, CE2 functional only
7= Octal Die Package, CE3 functional
8= Octal Die Package, CE2/CE3/CE4 functional
9= Octal Die Package, CE2/CE4 functional

Package Code
B= 100/170B BGA 12x18mm PB free
C= 52-pad ULGA 12x17mm PB free
D= 63/120B VFBGA 9x11mm PB free
G= 52-pad VLGA 12x17x1mm PB free
H= 63/120B VBGA 10.5x13mm PB free
J= 48/52-pad SOP/LLGA 12x20mm PB free
L= 52-pad LLGA 14x18mm PB free
P= 48ld TSOP-1 Off-center Package Leads (OCPL) PB free
T= 48ld TSOP-1 PB
V= 52-pad VLGA 14x18mm PB free
W= 48ld TSOP-1 Center Package Leads (CPL) PB free

Voltage

	Vcc	VccQ	VssQ
1=	1.8V	not used	not used
3=	3.3V	not used	not used
D=	3.3V	1.8V	0V
S=	3.3V	3.3V	0V

SpecTek Flash Wafer/Die Marketing Matrix

Last Updated: 07/01/09

WB S M50A D B CX N L - NA F3 A

WB or WT= Die- 3.3 Volt
WC or WS= Unground Wafer- 3.3 Volt
WD or WF= Die- 1.8 Volt
WG or WH= Unground Wafer- 1.8 Volt
WM or WN= Stacked die, no ring

Parent Device/Configuration
E= 1Gx8 T= 2Mx16
F= 2Gx8 V= 512Mx8
S= 256Mx8 Y= 128Mx16
U= Unavailable

Cell Technology
M= SLC
L= MLC

Device Generation & Parent Density
x9x= 2Gb x2x= 16Gb
x0x= 4Gb x3x= 32Gb
x1x= 8Gb x4x= 64Gb

Film Frame Type
D= Disco
K= K & S
N= NA

Wafer Tape Type
B= D-175
C= R-3000
D= LE-Z01
F= P-2110G
N= NA (Uncut Wafers)

Backside Adhesive

BX = Hitachi FH-800 10µm
CX = Hitachi FH-800P 10µm
DX = Hitachi FH-800T 10µm
EX = Nitto EM500-M3-60
FX = Hitachi FH-800T 20µm
GX = HitachiFH-9011 20µm
HX = Hitachi FH-800P 20µm
JX = Hitachi FH-9011T 20µm
KX = Nitto EM500-M2A-G 20µm
LX = Hitachi FH-800 20µm
MX = Hitachi FH-900L 20µm
PX = Hitachi FH-900L 25µm
QX = Nitto EM550G-P 20µm
RX = Nitto EM500-M2A-G-P 20µm
SX = Nitto EM550G-P-12-25
TX = Nitto EM-550G-P-8-25
VX = Nitto EM-310J-P-12-60
WX = Nitto EM500-M3-70
YX = Hitachi FH-WPX2913T-60
ZX = Nitto EM-310J-P-8-60
BB = Nitto FOW EM310J-P-12LW-60
BC = Hitachi FH9411ST 40µm
BD = Lintec LE4431
BE = Nitto EM500-M3 25µm
BF = Nitto EM500-M3VJ-60
BG = Hitachi FH-900NT-25-E
BH = Hitachi FH-900T-40
BJ = Hitachi FH-9211ST
BK = Nitto EM310VJ-P-60
NX = NA
BL = Lintec LE4738 P12AW
BM = Nitto EM700J-P 25µm
BN = Nitto EM310VJ-P
BP = Lintec LE4411
BQ = Nitto EM500-MA 2
BR = Ablestik ATB-120-12 30µm
BT = Nitto EM310G-P-8LW-50
BV = Hitachi FH-900T-25µm

Multi Pass Pick Information
N= Not applicable
Other= Consult factory

Die Thickness

A= 100µm	L= 80µm	V= 90µm
C= 200µm	M= 175µm	W= 120µm
E= 305µm	N= 250µm	Y= 265µm
G= 675µm	P= 125µm	Z= Unknown
J= 750µm	Q= 225µm	2= 340µm
K= 350µm	R= 150µm	3= 230µm
		4= 75µm

Reticle Grade and Revision
MM= Not applicable
Nx[2]= 300mm wafer
Rx[2]= 200mm wafer
A – S= Top Metal Reticle Revision
Note 2: Where x equals the revision.

Pick Grade
F1[1]= 1st Pass
F2[1]= 2nd Pass
F3[1]= 3rd Pass
F5[1]= 1st Pass/Limited Write Endurance
F6= 2nd Pass/Limited Write Endurance
S5[1]= 3rd Pass/Limited Write Endurance
FH[1]= Single Plane
W2= Whole 200mm wafer
W3= Whole 300mm wafer
W4= Whole 200mm wafer/Limited Write Endurance
W5= Whole 300mm wafer/Limited Write Endurance
Note 1: Reconstructed wafers do not require a wafer map.

CU Bond Pad Type
A= Ni/PD
C= AL CAP
D= NI/PD with Polyimide Passivation
F= AL CAP with Polyimide Passivation