DRAM Part Decoder

IS 43 TR 8 1280 C L - 107M B L I - TR

ISSI prefix
Product Family
Operating Voltage Range
Bus Width
No. of Words
Die Rev
Low Voltage

Packing (optional)
Temp. Grade
Solder Type
Package
CAS Latency
Speed
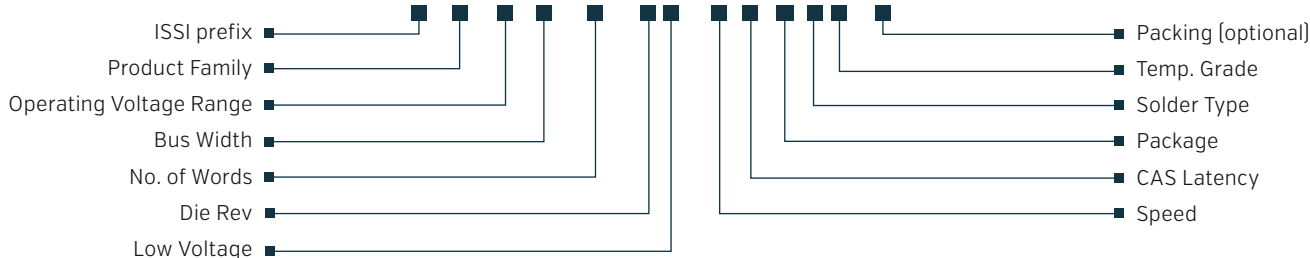
■ SDRAM Product Family

41 = Asynchronous

42 = SDR Commercial/
Industrial grade

43 = (LP)DDR/DDR2/DDR3/DDR4
Commercial/Industrial grade

45 = SDR Automotive grade

46 = (LP)DDR/DDR2/DDR3/DDR4
Automotive grade

■ Operating Voltage Range

Asynchronous: Fast Page & EDO

LV = 3.3V

Synchronous:

High Speed

S = 3.3V SDR

VS = 1.8V SDR

R = 2.5V DDR or 2.5V SDR

DR = DDR2

TR = DDR3

QR = DDR4

■ Low Power

SM/RM/VM = 3.3V/2.5V/1.8V
mobile SDR

LR = 1.8V mobile DDR (LPDDR)

LD = LPDDR2

LQ = LPDDR4

■ Bus Width

8 = x8

16 = x16

32 = x32

■ No. of Words

100 = 1M

200 = 2M

...

128 = 128M

256 = 256M

512 = 512M

K01 or 1024 = 1G

■ Monolithic/Stacked, Ranks

(Blank) = Monolithic, Single Rank, unless stated otherwise.

S1 = Stacked, Single Rank

S2 = Stacked, Dual Rank

■ Generation ("Die Rev")

A-Z (1 characters)

EA-EZ (2 characters)
ECC Feature

■ Low Voltage

DDR3

L = Supports 1.35V & 1.5V

LPDDR4

L = Supports <u>only</u> 0.6V I/O (LPDDR4X)

■ Speed

-7 = up to 143Mhz

-6 = up to 166Mhz

-75E = up to 133Mhz @ CL2 (SDR)

-5 = up to 200Mhz

-37 = up to 266Mhz

-3 = up to 333Mhz

-25 = up to 400Mhz

-187 or -18 = up to 533Mhz
(1066 Data Rate)

-15 = up to 667 Mhz (1333 Data Rate)

-125 = up to 800Mhz (1600 Data Rate)

-107 = up to 933Mhz (1866 Data Rate)

-093 = up to 1066Mhz (2133 Data Rate)

-083 = up to 1200Mhz (2400 Data Rate)

-075 = Up to 1333Mhz (2666 Data Rate)

-068 = Up to 1466Mhz (2933 Data Rate)

-062 = Up to 1600Mhz (3200 Data Rate)

■ CAS Latency

B = 3, C = 4, D = 5, E = 6,

F = 7, G = 8, H = 9, J = 10,

K = 11, L = 12, M = 13, N = 14,

P = 15, R = 16, T = 17, U = 18

V = 19, Y = 21, AA = 22

(Blank for some products, whereas only specific speed and CAS Latency combinations exist for others.)

■ Solder Type

L = 100% matte Sn for non-BGA or SnAgCu for BGA

■ Temp. Grade

Blank = Commercial Grade (0°C to +70°C)

I = Industrial Grade (-40°C to +85°C)

A1 = Automotive Grade (-40°C to +85°C)

A2 = Automotive Grade (-40°C to +105°C)

A25 = Automotive Grade (-40°C to +115°C)

A3 = Automotive Grade (-40°C to +125°C)

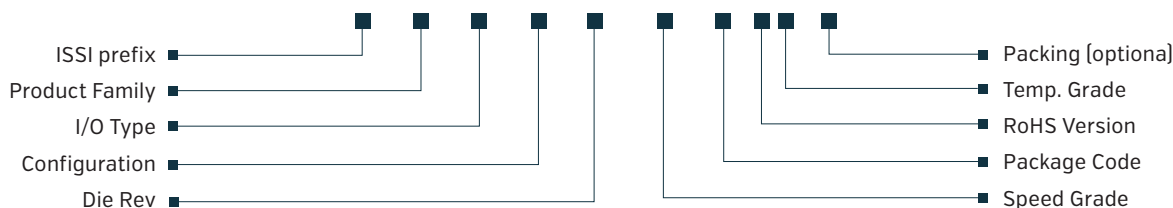(Ambient or case temperature limits shown for most products. Refer to specs.)

■ Package Type

B = BGA

CT = Copper TSOP

T = TSOP

BP = PoP BGA

RLDRAM®2, RLDRAM®3 Part Decoder

IS 49NL C 36800 x - 25E WB L I - TR

- ISSI prefix
- Product Family
- I/O Type
- Configuration
- Die Rev
- Packing [optiona]
- Temp. Grade
- RoHS Version
- Package Code
- Speed Grade

Product Family:
49NL = RLDRAM®2
49RL = RLDRAM®3

I/O Type:
C = Common I/O
S = Separate I/O
Blank = RLDRAM®3

Configuration

288Mb
93200 = 32M x 9
18160 = 16M x 18
36800 = 8M x 36

576Mb
96400 = 64M x 9
18320 = 32M x 18
36160 = 16M x 36

1Gb
18640 = 64M x 18
36320 = 32M x 36

2Gb
18128 = 128M x 18
36640 = 64M x 36

Speed Grade:
18 – tCK = 1.875ns; tRC = 15ns
25E - tCK = 2.5ns; tRC = 15ns
25 - tCK = 2.5ns; tRC = 20ns
33 - tCK = 3.3ns; tRC = 20ns
5 - tCK = 5ns; tRC = 20ns
093E - tCK = 0.93ns; tRC = 8ns
093 - tCK = 0.93ns; tRC = 10ns
107E - tCK = 1.07ns; tRC = 8ns
107 - tCK = 1.07ns; tRC = 10ns
125F - tCK = 1.25ns; tRC = 8ns
125E - tCK = 1.25ns; tRC = 10ns
125 - tCK = 1.25ns; tRC = 12ns

Package Code:
B = 168-ball FBGA [RLDRAM®3]
WB = 144 - ball WBGA [RLDRAM2]

RoHS Version:
L = Lead-free [RoHS compliant]

Temperature Range:
Blank = Commercial [0C to 70°C]
I = Industrial [-40C to 85°C]

Packing:
TR = Tape and Reel
Blank = Bulk

Notes : 1. RLDRAM® is a registered trademark of Micron, Technology Inc. 2. S= Sample, Prod=Production