# AND8004/D

# ON Semiconductor Logic Date Code and Traceability Marking

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**APPLICATION NOTE**

## Introduction

This is a summary of ON Semiconductor Logic Device, Date Code, and Traceability Marking. We want to provide our customers with easy access to this information on the web. This applications note summarizes and explains the Date Code and Traceability Marking for Logic packages. This is not intended to replace the proper documentation. To properly decode the Logic marking you need 12MRH00191A ON Semiconductor marking spec, and S.O.P. 7–19 ID of Products to Location of Test/Assy/Wafer Fab. Also, you need to know the abbreviations used for Logic products(see the appropriate Logic datasheet for the specific device naming/ordering information).

## Device Marking

### Logic Families

The standard Logic abbreviations are:

```
LS                  = Low Power Schottky Logic
14xxx               = Metal Gate CMOS Logic
HC, HCT             = High Speed CMOS Logic
AC, ACT, JLC        = FACT – Fairchild Advanced CMOS Technology
VHC, VHCT           = Very High Speed CMOS Logic
LVX, LVXT           = Low–Voltage Very High Speed CMOS
LCX                 = Low–Voltage CMOS Logic
VCX                 = Advanced Low–Voltage CMOS Logic
```

### Logic Packages

The standard Logic package suffixes are:

```
N = Plastic Dual–In–Line
P = Metal Gate CMOS Plastic Dual–In–Line
D = SOIC Narrow Body
DW = SOIC Wide Body
F = EIAJ Plastic Mini Flat Pack
M = EIAJ Plastic Mini Flat Pack
DT = TSSOP or TSOP5 or TSOP6
DF = SOT–353/363 or SC–88A/SC–88
```

All of the above except DF, F, and M can be combined with an R2 suffix for tape and reel. The tape and reel suffixes for EIAJ Plastic Mini Flat Pack include EL, L1, L2, F1, F2 depending upon the type of tape and the orientation of the part in the tape pocket. The DF package can be combined with a T1, T2, or T4 tape and reel suffix that specifies the orientation of the part in the tape pocket and the number of devices per reel. The TSOP5/TSOP6 package (DT) can be combined with a T1 for a 3,000 unit 7–inch reel, or with a T3 for a 10,000 unit 13–inch reel.

### Device Marking

Typical Device naming in Logic consists of the following:

| Brand | Temp rating | Logic family | Logic function | Package | Tape and reel |
|---|---|---|---|---|---|
| MC | 74 | VHC | T138A | DT | R2 |

Plastic dual–in–line packages and larger SOIC packages can accommodate the entire device name excluding the tape and reel suffix.

Smaller package types with limited space on package for marking are either truncated or abbreviated. The SOT packages use a code for the Logic family and device type.

On TSSOP and some SOIC, the device name will be truncated by removing the MC74 prefix, and any package suffixes.

Example:
Marking — Device
HC04A = MC74HC04ADR2

Marking — Device
LCX
244 = MC74LCX244DTR2

Marking — Device
VL = MC74VHC1GT50DFT1

### PC/XC Device Marking

New Prototype “PC” devices and new pre–production release, pre–reliability “XC” devices:

P = PC
X = XC

The first character is the “PC” or “XC” identifier. For a variety of reasons, the remaining characters have not been standardized for different engineering devices. On these devices the date code will be the most important item.

# Date and Traceability Code Markings

## TSSOP Packages

### 8 ld TSSOP = “YWW” front side and “AWL” back side

**Device Marking**

Front

```
XXXX
643
```

Back

```
X23
```

**Marking Decoded**

```
XXXX = Part number
643 = “YWW” front side
|||
6|| = 1996
 ||
 43 = WW43
```

“Y” – The First code is 1 characters and indicates the Year Assembled.
“WW” – The Second & Third code is 2 characters and indicates the Work Week Assembled.

```
X23 = ”AWL” back side
|||
X|| = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P.7–19)
 ||
 23 = Serialized lot count for that Work Week
```

“A” – The First code is 1 or 2 characters indicating the Assembly Location.
“WL” – The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.

### 14/16/20/24 ld TSSOP = ”AWLYWW”

**Device Marking**

```
VHCT
244A
XAA643
```

**Marking Decoded**

```
VHCT
244A   = MC74VHCT244ADT – Two lines representing device family and logic function
XAA643 = ”AWLYWW”
||||||
X||||| = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P.7–19)
 |||||
 AA||| = Serialized lot count for that Work Week
   |||
   6|| = 1996
    ||
    43 = WW43
```

“A” – The First code is 1 or 2 characters indicating the Assembly Location
“WL” – The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.
“Y” – The Fourth code is 2 characters and indicates the Year Assembled.
“WW” – The Fifth & Sixth code is 2 characters and indicates the Work Week Assembled.

**48/56 ld TSSOP = “AWLYYWW”**

**Device Marking**

```
    MC74LCX16244
    PAA9646
```

**Marking Decoded**

```
MC74LCX16244    = MC74LCX16244DT
PAA9646 = ”AWLYYWW”
|||||||
P|||||| = ON Semiconductor Carmona, Philippines. Assy Location.(S.O.P.7–19)
 ||||||
 AA|||| = Serialized lot count for that Work Week
   ||||
   96|| = 1996
     ||
     46 = WW46
```

“A” – The First code is 1 or 2 characters indicating the Assembly Location.
“WL” – The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.
“YY” – The Fourth & Fifth code is 2 characters and indicates the Year Assembled.
“WW” – The Sixth & Seventh code is 2 characters and indicates the Work Week Assembled.

## SOT Packages

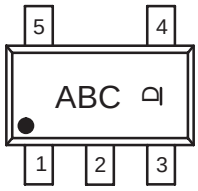
### 5 ld SOT–353/SC–88A/SC–70

| | PACKAGE TOP WIDTH | DEVICE MARKING HEIGHT | DATE CODE HEIGHT |
|---|---|---|---|
| SC88A/SOT353/SC70 | .045” – .053” | .016” – .025” | .014” – .020” |

Figure 1 illustrates the marking format for SOT–353, and SC88A devices. The laser marking is to appear on the top of the package and be oriented per Figure 1A.

“ABC” illustrates toe location of the Device Code which is specified below and by the device 48A. “D” illustrates the location of the Date Code, the orientation of which depends upon the assembly factory. With the device as shown, the assembly factory is SMP.

**Figure 1A.**



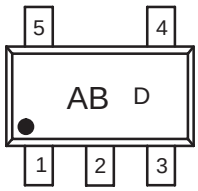

### 5 ld TSOP5/SOT–23/SC–89

| | PACKAGE TOP WIDTH | DEVICE MARKING HEIGHT | DATE CODE HEIGHT |
|---|---|---|---|
| TSOP5/SOT23/SC59 | .051” – .067” | .016” – .025” | .014” – .020” |

Figure 1B illustrates the marking format for TSOP5 and TSOP6 devices. The laser marking is to appear on the top of the package and be oriented per Figure 1A.

“ABC” illustrates toe location of the Device Code which is specified below and by the device 48A. “D” illustrates the location of the Date Code, the orientation of which depends upon the assembly factory. With the device as shown, the assembly factory is Seremban 1.

**Figure 1B.**



**DATE CODES:**

SOT–23/TSOP5/SC59, SOT–23/TSOP6/SC59, SC88A/SC70/SOT–353, SC88/SC70/SOT–363

| | MONTH | DATE CODE | | MONTH | DATE CODE | | MONTH | DATE CODE | | MONTH | DATE CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1994 | JAN | Y | 1995 | JAN | M | 1996 | JAN | E | 1997 | JAN | 1 |
| | FEB | Z | | FEB | N | | FEB | F | | FEB | 2 |
| | MAR | C | | MAR | O | | MAR | H | | MAR | 3 |
| | APR | D | | APR | P | | APR | J | | APR | 4 |
| | MAY | E | | MAY | R | | MAY | K | | MAY | 5 |
| | JUN | F | | JUN | T | | JUN | L | | JUN | 6 |
| | JUL | G | | JUL | U | | JUL | N | | JUL | 7 |
| | AUG | H | | AUG | V | | AUG | P | | AUG | 8 |
| | SEP | I | | SEP | 0 | | SEP | U | | SEP | 9 |
| | OCT | J | | OCT | X | | OCT | X | | OCT | T |
| | NOV | K | | NOV | Y | | NOV | Y | | NOV | V |
| | DEC | L | | DEC | Z | | DEC | Z | | DEC | C |
| 1998 | JAN | E | 1999 | JAN | 1 | 2000 | JAN | E | 2001 | JAN | 1 |
| | FEB | F | | FEB | 2 | | FEB | F | | FEB | 2 |
| | MAR | H | | MAR | 3 | | MAR | H | | MAR | 3 |
| | APR | J | | APR | 4 | | APR | J | | APR | 4 |
| | MAY | K | | MAY | 5 | | MAY | K | | MAY | 5 |
| | JUN | L | | JUN | 6 | | JUN | L | | JUN | 6 |
| | JUL | N | | JUL | 7 | | JUL | N | | JUL | 7 |
| | AUG | P | | AUG | 8 | | AUG | P | | AUG | 8 |
| | SEP | U | | SEP | 9 | | SEP | U | | SEP | 9 |
| | OCT | X | | OCT | T | | OCT | X | | OCT | T |
| | NOV | Y | | NOV | V | | NOV | Y | | NOV | V |
| | DEC | Z | | DEC | C | | DEC | Z | | DEC | C |

**DEVICE CODES:**

SOT–23/TSOP5/SC59, SOT–23/TSOP6/SC59, SC88A/SC70/SOT–353, SC88/SC70/SOT–363

Family ID

```
 HSL  :  H
 VHC  :  V & W
 LCX  :  L
  VL  :  C & D
NLAS  :  A
```

Device Function

| | | Marking Code by Family | | | | |
|---|---|---|---|---|---|---|
| FUNC | ID | HSL | VHC | LCX | VL | AS |
| 00 | 1 | H1 | V1 | L1 | C1 | |
| T00 | H | – | VH | – | – | |
| 01 | 0 | | V0 | | C0 | |
| 02 | 3 | H3 | V3 | L3 | C3 | |
| T02 | J | – | VJ | – | – | |
| 03 | P | | VP | | CP | |
| 04 | 5 | H5 | V5 | L5 | C5 | |
| T04 | K | – | VK | – | – | |
| U04 | 6 | H6 | V6 | L6 | C6 | |
| 05 | F | | VF | | CF | |
| 07 | 7 | | V7 | | C7 | |
| 08 | 2 | H2 | V2 | L2 | C2 | |
| T08 | T | – | VT | – | – | |
| 09 | X | | VX | | CX | |
| 14 | A | HA | VA | LA | CA | |
| T14 | C | – | VC | – | – | |
| 32 | 4 | H4 | V4 | L4 | C4 | |
| T32 | N | – | VN | – | – | |
| 50 | R | – | VR | – | CR | |
| T50 | L | – | VL | – | – | |
| 4599 | 0 | – | – | – | – | A0 |
| T4599 | 1 | – | – | – | – | A1 |
| 66 | 9 | – | V9 | L9 | C9 | |
| T66 | E | – | VE | L9 | – | |
| 86 | 8 | H8 | V8 | L8 | C8 | |
| T86 | N | – | VM | – | – | |
| 125 | 0 | – | W0 | – | D0 | |
| T125 | 1 | – | W1 | – | – | |
| 126 | 2 | – | W2 | – | D2 | |
| T126 | 3 | – | W3 | – | – | |
| 32 | D | – | VD | – | CD | |
| T132 | U | – | VU | – | | |
| 135 | Z | – | VZ | – | CZ | |

## SOIC Packages

### 8 ld SOIC = ”ALYW”

### Device Marking

```
     HEP08
     PANS
```

### Marking Decoded

```
VHCT
HEP08 = MC10EP08D
PANS  = “ALYW”
||||
P||| = ON Semiconductor Carmona, Philippines. Assy Location.(S.O.P.7–19)
 |||
 A|| = First Lot Assembled for that Device Type in that Alpha Code (Work Week).
  ||
  N| = 1995 Second 6 months, WW27 – WW52
   |
   S = WW45 (Y95 WW45)
```

“A” – The First character indicates the location of Assembly Location.
“L” – The Second character indicates the Wafer Lot Tracking Code.
“Y” – The Third character indicates an “ALPHA CODE” of the Year assembled.
“W” – The Fourth character indicates an “ALPHA CODE” of the Work Week assembled.

| | | |
|---|---|---|
| A = 1989 First | 6 months, | WW01 – WW26 |
| B = 1989 Second | 6 months, | WW27 – WW52 |
| C = 1990 First | 6 months, | WW01 – WW26 |
| D = 1990 Second | 6 months, | WW27 – WW52 |
| E = 1991 First | 6 months, | WW01 – WW26 |
| F = 1991 Second | 6 months, | WW27 – WW52 |
| G = 1992 First | 6 months, | WW01 – WW26 |
| H = 1992 Second | 6 months, | WW27 – WW52 |
| I = 1993 First | 6 months, | WW01 – WW26 |
| J = 1993 Second | 6 months, | WW27 – WW52 |
| K = 1994 First | 6 months, | WW01 – WW26 |
| L = 1994 Second | 6 months, | WW27 – WW52 |
| M = 1995 First | 6 months, | WW01 – WW26 |
| N = 1995 Second | 6 months, | WW27 – WW52 |
| O = 1996 First | 6 months, | WW01 – WW26 |
| P = 1996 Second | 6 months, | WW27 – WW52 |
| Q = 1997 First | 6 months, | WW01 – WW26 |
| R = 1997 Second | 6 months, | WW27 – WW52 |
| S = 1998 First | 6 months, | WW01 – WW26 |
| T = 1998 Second | 6 months, | WW27 – WW52 |
| U = 1999 First | 6 months, | WW01 – WW26 |
| V = 1999 Second | 6 months, | WW27 – WW52 |
| W = 2000 First | 6 months, | WW01 – WW26 |
| X = 2000 Second | 6 months, | WW27 – WW52 |
| Y = 2001 First | 6 months, | WW01 – WW26 |
| Z = 2001 Second | 6 months, | WW27 – WW52 |

The “W” Work Week Alpha Codes are:

| First 6 months<br>WW01 – WW26 | Second 6 months<br>WW27 – WW52 |
|---|---|
| A = 01 | A = 27 |
| B = 02 | B = 28 |
| C = 03 | C = 29 |
| D = 04 | D = 30 |
| E = 05 | E = 31 |
| F = 06 | F = 32 |
| G = 07 | G = 33 |
| H = 08 | H = 34 |
| I = 09 | I = 35 |
| J = 10 | J = 36 |
| K = 11 | K = 37 |
| L = 12 | L = 38 |
| M = 13 | M = 39 |
| N = 14 | N = 40 |
| O = 15 | O = 41 |
| P = 16 | P = 42 |
| Q = 17 | Q = 43 |
| R = 18 | R = 44 |
| S = 19 | S = 45 |
| T = 20 | T = 46 |
| U = 21 | U = 47 |
| V = 22 | V = 48 |
| W = 23 | W = 49 |
| X = 24 | X = 50 |
| Y = 25 | Y = 51 |
| Z = 26 | Z = 52 |

From this information you can determine the date codes:

Examples:

```
PANS
||||
P||| = ON Semiconductor Carmona, Philippines. Assy Location.(S.O.P.7–19)
 |||
 A|| = First Lot Assembled for that Device Type in that Alpha Code (Work Week).
  ||
  N| = 1995 Second 6 months, WW27 – WW52
   |
   S = WW45 (Y95 WW45)
```

```
XBST
||||
X||| = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P. 7–19)
 |||
 B|| = Second Lot Assembled for that Device Type in that Alpha Code (Work Week).
  ||
  S| = 1998 First 6 months, WW01 – WW26
   |
   T = WW20 (Y98 WW20)
```

**14/16 ld SOIC Narrow Body = “AWLYWW”**

**Device Marking**

```
    LCX00
    XAA643
```

**Marking Decoded**

```
LCX00 = MC74LCX00D
XAA643 = “AWLYWW”
||||||
X|||||  = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P.7–19)
 |||||
 AA|||  = First Lot Assembled for that Device Type in that (Work Week).
   |||
   6||  = 1996
    ||
    43  = WW43
```

```
“A”  – The First code is 1 or 2 characters indicating the Assembly Location
“WL”– The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.
“Y”  – The Fourth code is 2 characters and indicates the Year Assembled.
“WW”– The Fifth & Sixth code is 2 characters and indicates the Work Week Assembled.
```

**16/20/24 ld SOIC Wide Body = ”AWLYYWW”**

**Device Marking**

```
    VHCT244A
    PAA9646
```

**Marking Decoded**

```
VHCT244A = MC74VHCT244ADW
PAA9646 = ”AWLYYWW”
|||||||
P||||||  = ON Semiconductor Carmona, Philippines. Assy Location.(S.O.P.7–19)
 ||||||
 AA||||  = First Lot Assembled for that Device Type in that (Work Week).
   ||||
   96||  = 1996
     ||
     46  = WW46
```

```
“A”  – The First code is 1 or 2 characters indicating the Assembly Location
“WL”– The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.
“YY”– The Fourth code is 2 characters and indicates the Year Assembled.
“WW”– The Fifth & Sixth code is 2 characters and indicates the Work Week Assembled.
```

## EIAJ Mini Flat Pack Packages

### 8/14/16 ld MFP = “ALYW”

**Device Marking**

```
VHCT00A
PANS
```

**Marking Decoded**

```
VHCT00A = MC74VHCT00AM
PANS
||||
P||| = ON Semiconductor Carmona, Philippines. Assy Location.(S.O.P.7–19)
 |||
 A|| = First Lot Assembled for that Device Type in that Alpha Code (Work Week).
  ||
  N| = 1995 Second 6 months, WW27 – WW52
   |
   S = WW45 (Y95 WW45)
```

“A” – The First character indicates the location of Assembly Location.
“L” – The Second character indicates the Wafer Lot Tracking Code.
“Y” – The Third character indicate an ”ALPHA CODE” of the Year assembled.
“W” – The Fourth character indicate an ”ALPHA CODE” of the Work Week assembled.

The ”Y” YEAR Alpha Codes are:

| | | |
|---|---|---|
| A = 1989 First | 6 months, | WW01 – WW26 |
| B = 1989 Second | 6 months, | WW27 – WW52 |
| C = 1990 First | 6 months, | WW01 – WW26 |
| D = 1990 Second | 6 months, | WW27 – WW52 |
| E = 1991 First | 6 months, | WW01 – WW26 |
| F = 1991 Second | 6 months, | WW27 – WW52 |
| G = 1992 First | 6 months, | WW01 – WW26 |
| H = 1992 Second | 6 months, | WW27 – WW52 |
| I = 1993 First | 6 months, | WW01 – WW26 |
| J = 1993 Second | 6 months, | WW27 – WW52 |
| K = 1994 First | 6 months, | WW01 – WW26 |
| L = 1994 Second | 6 months, | WW27 – WW52 |
| M = 1995 First | 6 months, | WW01 – WW26 |
| N = 1995 Second | 6 months, | WW27 – WW52 |
| O = 1996 First | 6 months, | WW01 – WW26 |
| P = 1996 Second | 6 months, | WW27 – WW52 |
| Q = 1997 First | 6 months, | WW01 – WW26 |
| R = 1997 Second | 6 months, | WW27 – WW52 |
| S = 1998 First | 6 months, | WW01 – WW26 |
| T = 1998 Second | 6 months, | WW27 – WW52 |
| U = 1999 First | 6 months, | WW01 – WW26 |
| V = 1999 Second | 6 months, | WW27 – WW52 |
| W = 2000 First | 6 months, | WW01 – WW26 |
| X = 2000 Second | 6 months, | WW27 – WW52 |
| Y = 2001 First | 6 months, | WW01 – WW26 |
| Z = 2001 Second | 6 months, | WW27 – WW52 |

The “W” Work Week Alpha Codes are:

| First 6 months<br>WW01 – WW26 | Second 6 months<br>WW27 – WW52 |
|---|---|
| A = 01 | A = 27 |
| B = 02 | B = 28 |
| C = 03 | C = 29 |
| D = 04 | D = 30 |
| E = 05 | E = 31 |
| F = 06 | F = 32 |
| G = 07 | G = 33 |
| H = 08 | H = 34 |
| I = 09 | I = 35 |
| J = 10 | J = 36 |
| K = 11 | K = 37 |
| L = 12 | L = 38 |
| M = 13 | M = 39 |
| N = 14 | N = 40 |
| O = 15 | O = 41 |
| P = 16 | P = 42 |
| Q = 17 | Q = 43 |
| R = 18 | R = 44 |
| S = 19 | S = 45 |
| T = 20 | T = 46 |
| U = 21 | U = 47 |
| V = 22 | V = 48 |
| W = 23 | W = 49 |
| X = 24 | X = 50 |
| Y = 25 | Y = 51 |
| Z = 26 | Z = 52 |
| Y = 25 | Y = 51 |
| Z = 26 | Z = 52 |

From this information you can determine the date codes:

Example:

```
XBST
||||
X||| = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P. 7–19)
 |||
 B|| = Second Lot Assembled for that Device Type in that Alpha Code (Work Week).
  ||
  S| = 1998 First 6 months, WW01 – WW26
   |
   T = WW20 (Y98 WW20)
```

**20 ld MFP = “AWLYWW”**

**Device Marking**

```
     LVX240
     XAA643
```

**Marking Decoded**

```
LVX240 = MC74LVX240M
XAA643 = ”AWLYWW”
||||||
X|||||  = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P.7–19)
 |||||
 AA|||  = First Lot Assembled for that Device Type in that (Work Week).
   |||
   6||  = 1996
    ||
    43  = WW43
```

“A”  – The First code is 1 or 2 characters indicating the Assembly Location
“WL”  – The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.
“Y”  – The Fourth code is 2 characters and indicates the Year Assembled.
“WW”  – The Fifth & Sixth code is 2 characters and indicates the Work Week Assembled.

## EIAJ Mini Flat Pack Packages (OLD)

**Per PCN 10111 isssued by NML–GPPD on 10 January 2000, all parts in the SO EIAJ T2 package prior to 1 April 2000 were marked to the following spec.**

**8/ ld MFP/SOEIAJ = “YWXX”**

**Device Marking**

```
HEP08
PANS
```

**Marking Decoded**

```
HEP08 = MC10EP08D
NSAE = YWXX
||||
N||| = 1995 Second 6 months, WW27 – WW52
 |||
 S|| = WW45  (Y95 WW45)
  ||
  AE = Serialized lot count for that Work Week
```

“Y” – The First character indicates an ”ALPHA CODE” of the Year assembled.
“W” – The Second character indicates an ”ALPHA CODE” of the Work Week assembled.
“XX” – The Third and Fourth code is 2 characters and indicates the Wafer Lot Tracking Code.

The ”Y” YEAR Alpha Codes are:

| | | |
|---|---|---|
| A = 1989 First | 6 months, | WW01 – WW26 |
| B = 1989 Second | 6 months, | WW27 – WW52 |
| C = 1990 First | 6 months, | WW01 – WW26 |
| D = 1990 Second | 6 months, | WW27 – WW52 |
| E = 1991 First | 6 months, | WW01 – WW26 |
| F = 1991 Second | 6 months, | WW27 – WW52 |
| G = 1992 First | 6 months, | WW01 – WW26 |
| H = 1992 Second | 6 months, | WW27 – WW52 |
| I = 1993 First | 6 months, | WW01 – WW26 |
| J = 1993 Second | 6 months, | WW27 – WW52 |
| K = 1994 First | 6 months, | WW01 – WW26 |
| L = 1994 Second | 6 months, | WW27 – WW52 |
| M = 1995 First | 6 months, | WW01 – WW26 |
| N = 1995 Second | 6 months, | WW27 – WW52 |
| O = 1996 First | 6 months, | WW01 – WW26 |
| P = 1996 Second | 6 months, | WW27 – WW52 |
| Q = 1997 First | 6 months, | WW01 – WW26 |
| R = 1997 Second | 6 months, | WW27 – WW52 |
| S = 1998 First | 6 months, | WW01 – WW26 |
| T = 1998 Second | 6 months, | WW27 – WW52 |
| U = 1999 First | 6 months, | WW01 – WW26 |
| V = 1999 Second | 6 months, | WW27 – WW52 |
| W = 2000 First | 6 months, | WW01 – WW26 |
| X = 2000 Second | 6 months, | WW27 – WW52 |
| Y = 2001 First | 6 months, | WW01 – WW26 |
| Z = 2001 Second | 6 months, | WW27 – WW52 |

The “W” Work Week Alpha Codes are:

| First 6 months<br>WW01 – WW26 | Second 6 months<br>WW27 – WW52 |
|---|---|
| A = 01 | A = 27 |
| B = 02 | B = 28 |
| C = 03 | C = 29 |
| D = 04 | D = 30 |
| E = 05 | E = 31 |
| F = 06 | F = 32 |
| G = 07 | G = 33 |
| H = 08 | H = 34 |
| I = 09 | I = 35 |
| J = 10 | J = 36 |
| K = 11 | K = 37 |
| L = 12 | L = 38 |
| M = 13 | M = 39 |
| N = 14 | N = 40 |
| O = 15 | O = 41 |
| P = 16 | P = 42 |
| Q = 17 | Q = 43 |
| R = 18 | R = 44 |
| S = 19 | S = 45 |
| T = 20 | T = 46 |
| U = 21 | U = 47 |
| V = 22 | V = 48 |
| W = 23 | W = 49 |
| X = 24 | X = 50 |
| Y = 25 | Y = 51 |
| Z = 26 | Z = 52 |
| Y = 25 | Y = 51 |
| Z = 26 | Z = 52 |

From this information you can determine the date codes:

Example:

```
XBST
||||
X||| = ASE  Chung–Li, Taiwan. Assy Location.(S.O.P. 7–19)
 |||
 B|| = Second Lot Assembled for that Device Type in that Alpha Code (Work Week).
  ||
  S| = 1998 First 6 months, WW01 – WW26
   |
   T = WW20 (Y98 WW20)
```

### 14/16 ld MFP/SOEIAJ = “YWWXX”

**Device Marking**

```
MC14066B
945AE
```

**Marking Decoded**

```
MC14066B = MC14066BF
945AE = YWWXX
|||||
9|||| = 1999
 ||||
 45|| = WW45
   ||
   AE = Serialized lot count for that Work Week
```

“Y” – The First character indicates last digit of the Year assembled.
“WW” – The Second and Third characters indicate the Work Week assembled.
“XX” – The Third and Fourth code is 2 characters and indicates the Wafer Lot Tracking Code.

### 20 ld MFP/SOEIAJ = “YWWXX”

**Device Marking**

```
MC74HC374A
818ET
```

**Marking Decoded**

```
MC74HC374A = MC74HC374AF
945AE = YWWXX
|||||
8|||| = 1998
 ||||
 18|| = WW18
   ||
   ET = Serialized lot count for that Work Week
```

“Y” – The First character indicates last digit of the Year assembled.
“WW” – The Second and Third characters indicate the Work Week assembled.
“XX” – The Third and Fourth code is 2 characters and indicates the Wafer Lot Tracking Code.

## Plastic Dual–In–Line(PDIP) Packages

### 14/16/18/20/24 ld PDIP = ”AWLYYWW”

#### Device Marking

Example 1: 14–ld PDIP

```
MC74HC00AN
CPAA9646
```

Example 2: 20–ld PDIP

```
MC74HCT244AN
CPAA9646
```

#### Marking Decoded

Example 1: 14–ld PDIP

```
MC74HC00AN   = MC74HC00AN
CPAA9646 = “AWLYYWW”
||||||||
ZR|||||| = AAPI Manila, Philippines. Assy Location.(S.O.P.7–19)
  ||||||
  DK|||| = Lot Assembled for that Device Type in that (Work Week).
    ||||
    99|| = 1998
      ||
      02 = WW02
```

Example 2: 20–ld PDIP

```
MC74HCT244AN   = MC74HCT244AN
CPAA9646 = “AWLYYWW”
||||||||
CP|||||| = Astra(AMT) Batam Island, Indonesia. Assy Location.(S.O.P.7–19)
  ||||||
  AA|||| = First Lot Assembled for that Device Type in that (Work Week).
    ||||
    98|| = 1998
      ||
      21 = WW21
```

```
“A”  – The First code is 1 or 2 characters indicating the Assembly Location
“WL” – The Second & Third code is 2 characters and indicates the Wafer Lot Tracking Code.
“YY” – The Fourth & Fifth code is 2 characters and indicates the Year Assembled.
“WW” – The Sixth & Seventh code is 2 characters and indicates the Work Week Assembled.
```

## APPENDIX 1 – Assembly Location Codes

**Codes used in the previous pages to denote assembly site location.**

| | | | |
|---|---|---|---|
| B | ON SEMI PHX | PHOENIX, ARIZONA (52ND ST) | |
| BG | PANTRONIX, INC | SAN JOSE, CALIFORNIA | |
| C | CARSEM (M) (old plant) | IPOH, MALAYSIA | |
| CB | PHENITEC / TOREX (T/T) | IBARA, JAPAN | |
| CK | ASE (M) OR ASE | PENANG, MALAYSIA | or ”1” for SOIC 8 LD or smaller packages |
| CM | ON SEMI MSL | SINGAPORE | |
| CP | ASTRA (AMT) | BATAM ISLAND, INDONESIA | or ”2” for SOIC 8 LD or smaller packages |
| CV | MITSUI SHAH ALAM (MSA) | SHAH ALAM, MALAYSIA | |
| DJ | CARSEM (S) (new plant) | IPOH, MALAYSIA | or ”3” for SOIC 8 LD or smaller packages |
| DQ | SMP (SEMICONDUCTOR MINIATURE PRODUCTS VENTURE) | SEREMBAN, MALAYSIA ON SEMI–PHILIPS JOINT VENTURE | |
| DX | ANAM K3 (BUPYUNG) | BUPYUNG, KOREA | |
| F | ON SEMI MPI | MANILA, PHILIPPINES | |
| I | ANAM K1 (HWAYANG–DONG) | SEOUL, KOREA | |
| J | ON SEMI NML | AIZU, JAPAN | |
| K | *ASE–MKL | SEOUL, KOREA | |
| MC | AMD (Assembly) | BANGKOK, THAILAND | |
| MD | AMD (Test) | PENANG, MALAYSIA | |
| MI | CHARTERED SEMICONDUCTORS | SINGAPORE | |
| MX | MITSUI–KUMAMOTO (formerly KIKUCHI–GUN, TAIWAN LITEON ELEC) | KUMAMOTOKEN, JAPAN | |
| ND | TOSHIBA IWATE | IWATE–KITAKAMI, JAPAN | |
| NL | TESLA–SEZAM | ROSNOV, CZECH REPUBLIC | |
| NP | TOSHIBA OHITA | OHITA–KITAKYUSHU, JAPAN | |
| NR | LANSDALE | TEMPE, ARIZONA | |
| P | ON SEMI MPC | CARMONA, PHILIPPINES | |
| PR | AAP3 | LAGUNA, PHILIPPINES | |
| QW | ASE (P) | MANILA, PHILIPPINES | or ”1” for SOIC 8 LD or smaller packages |
| R | ON SEMI SBN | SEREMBAN, MALAYSIA | |
| SB | ANAM K4 (KWANG JU) | KWANG JU, KOREA | |
| SE | BEST ELECTRONICS (BECCI) | METRO MANILA, PHILIPPINES | |
| TE | STM | SINGAPORE | |
| TF | *SLOVAKIAN ELECTRONICS | PIESTANY, SLOVAKIA INC. | |
| V | ON SEMI SBN II | SEREMBAN, MALAYSIA | |
| W | ON SEMI GDL | GUADALAJARA, MEXICO | |
| X | *ASE–METL | CHUNG–LI, TAIWAN | |
| ZK | ASE (K) OR ASE | KAOHSIUNG, TAIWAN | |
| ZQ | ANAM K2 (BUCHON) | BUCHON, KOREA | |
| ZR | AAP1 (FORMERLY: AAPI) | MANILA PHILIPPINES | or ”5” for SOIC 8 LD or smaller packages |
| ZS | MITSUI HI–TECH (MHT) | FUKUOKA–KUROSAKI, JAPAN | |
| ZV | AAP2 (FORMERLY: AME) | MANILA, PHILIPPINES | |

NOTE: THE SINGLE DIGIT NUMBER ASSIGNED TO SOME SUBCONTRACTORS IS TO BE USED FOR MARKING PURPOSES ONLY, WHEN PACKAGE SIZE IS VERY SMALL.

* Indicates an addition or a change

# Notes

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