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Fairchild EEPROM Part Marking

Applications require smaller and smaller packaging for the EEPROM family of products. In order to support the quality and reliability efforts, certain die and assembly lot information is required to be printed on the packaged device. The space constraint, on the small EEPROM packages, necessitates printing this information in an abbreviated format. Below is our effort to explain these abbreviations.

Space Available by Package

Package	Top Mark # of Characters/Line	Top Mark # of Lines	Bottom Mark (TSSOP Only)
Plastic Dual-in-Line, 8 Lead (N)	6	3	NA
SOIC, 8 Lead (M8)	5	3	NA
TSSOP, 8 Lead (MT8)	5	2	6 characters/2 lines

- The NM24C02LN, NM24C02LM8 and NM24C02LMT8 are used as examples of Fairchild Semiconductor part marking.

Top Mark	NM24C02LN	NM24C02LM8	NM24C02LMT8
First Line Second Line Third Line	FZ83TT 24C02LN	FZ83TT 24C02 LM8	83TT F02L
Bottom Mark	**NM24C02LN**	**NM24C02LM8**	**NM24C02LMT8**
First Line Second Line Third Line			Z24C02 LMT8

- The FM93C46LN, FM93C46LM8, and FM93C46LMT8 are used as examples of Fairchild Semiconductor part marking.

Top Mark	FM93C46LN	FM93C46LM8	FM93C46LMT8
First Line Second Line Third Line	FZ83TT 93C46LN	FZ83TT 93C46 LM8	83TT F46L
Bottom Mark	**FM93C46LN**	**FM93C46LM8**	**FM93C46LMT8**
First Line Second Line Third Line			Z93C46 LMT8

- The FM93CS46EN, FM93CS46EM8, and FM93CS46LEMT8 are used as examples of Fairchild Semiconductor part marking.

Top Mark	FM93CS46EN	FM93CS46EM8	FM93CS46LEMT8
First Line Second Line Third Line	FZ83TT 93S46 E.	FZ83TT 93S46 E.	83TT FS46.
Bottom Mark	**FM93CS46EN**	**FM93CS46EM8**	**FM93CS46LEMT8**
First Line Second Line Third Line			Z93CS46 LE

Rev. A

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- The FM25C040UN, FM25C040ULM8, and FM25C040ULMT8 are used as examples of Fairchild Semiconductor part marking.

Top Mark	FM25C040UN	FM25C040ULM8	FM25C040ULMT8
First Line	FZ83TT	FZ83TT	83TT
Second Line	25C04	25C04	F2504
Third Line	U	UL	
Bottom Mark	**FM25C040UN**	**FM25C040ULM8**	**FM25C040ULMT8**
First Line			Z2504
Second Line			UL
Third Line			

- The FM24C02ULN, FM24C02ULM8, and FM24C02ULMT8 are used as examples of Fairchild Semiconductor part marking.

Top Mark	FM24C02ULN	FM24C02ULM8	FM24C02ULMT8
First Line	FZ83TT	FZ83TT	83TT
Second Line	24U02	24U02	F02L
Third Line	LN	LM8	
Bottom Mark	**FM24C02ULN**	**FM24C02ULM8**	**FM24C02ULMT8**
First Line			Z2402
Second Line			MT8U
Third Line			

First Line Marking

The first line begins with the Fairchild logo (F). Effective June 1998 the logo changes from the National logo to the new Fairchild logo.

The "Z" in the above examples represents a single alpha digit for assembly plant code (B for Bangkok assembled parts and P for Penang assembled product).

The next 2 numeric characters (83) designate the date code. In the example above, the "8," represents the year 1998, and the next character represents the pay week the device was assembled. Since there is only one digit allowed, a multiplier of 6 is used to calculate the actual pay week (example 3 x 6 = 18; 18th pay week = April 20, 1998).

The last two digits, "TT," in the first line represent the die run traceability code. This code identifies the wafer lot of the die in the package and is randomly assigned at the assembly plant.

Second Line Marking

The second line displays the actual part nomenclature. The package size definitely comes into play in this line. The non-volatile memory prefix (NM) for all devices and packages is dropped. On 93CS parts the C is dropped due to space limitations. On DIP and SOIC packages, the interface family and density is printed (ex. "24C02;" IIC interface, 2K density). Space on the TSSOP does not allow for the full family and density identifiers. Some examples of the abbreviations used for TSSOP are:

Part Type	Abbreviation
FM93C46LZEMT8	F46L
FM93CS46LEMT8	FS46.
FM24C02ULMT8	F02L
FM34W02ULMT8	FW32
FM24C09ULZEMT8	F2409
FM25C040ULMT8	F2504

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Third Line Marking

The temperature, voltage options and package type are printed on the third line of the top mark (ex. "LEM8;" low voltage, extended temperature and 8 lead SOIC package).

TSSOP Bottom Mark

In order to mark the TSSOP package with all the pertinent information, the back side of the package is used.

First Line Marking

The assembly plant, "Z," and the full version of the interface family and density (ex. 24C02).

Second Line Marking

The temperature, voltage options and package type designators are printed on the second line (ex. LMT8).