8-Bit Microcontrollers—Product Analysis

The tables and figures in this section are organized as follows:

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8–Bit Microcontrollers—Product Analysis

Table 1

Estimated Market Share by Product Type
for 8–Bit Microcontrollers
1975–1979

Product	1975	1976	1977	1978	1979
802X	0	0	0	0	1.4%
8048/35	0	0	11.9%	23.7%	27.5
8049/39	0	0	0	0.5	4.1
6500/XX	0	0	0	0	0.1
6801/03	0	0	0	0	0.1
6805	0	0	0	0	*
F8/387X	100.0%	100.0%	88.1	55.6	31.5
PIC1650	0	0	0	20.3	35.4
	100.0%	100.0%	100.0%	100.0%	100.0%

*Calculated value is less than 0.1%.

Notes: Columns may not add to totals shown because of rounding. NMOS/CMOS/EPROM versions are included in the market share numbers for each product type.

Source: Dataquest
          August 1989

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Table 2

Estimated Market Share by Product Type
for 8–Bit Microcontrollers
1980–1984

	1980	1981	1982	1983	1984
6500/XX	0.5%	1.0%	0.6%	1.3%	1.2%
6801/03	0.9	5.4	7.8	10.5	7.8
6804	0	0	0	0	*
6805/68HC05	2.1	8.0	12.4	12.8	11.9
68HC11	0	0	0	0	*
8048/35	31.6	26.4	25.0	20.9	20.7
8049/39	9.7	15.0	18.5	18.4	18.9
8050/40	0.2	1.2	1.9	2.4	1.7
8051/31	0	0.1	1.0	6.1	13.6
8052/32	0	0	0	*	0.1
84XX	0	0	0.1	2.1	1.5
F8/387X	25.1	21.2	10.7	5.7	2.7
PIC165X	25.8	11.8	7.8	4.3	3.6
TMS7000	0	0.1	0.5	0.8	0.7
uPD78XX	0	1.4	3.8	5.5	7.2
Z8	0.1	1.0	1.7	2.2	2.5
Others	4.0	7.5	8.3	7.0	5.8
	100.0%	100.0%	100.0%	100.0%	100.0%

*Calculated value is less than 0.1%.
Notes: Columns may not add to totals shown because of rounding.
        NMOS/CMOS/EPROM versions are included in the market share
        numbers for each product type.

Source: Dataquest
         August 1989

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Table 3

Estimated Market Share by Product Type
for 8–Bit Microcontrollers
1985–1988

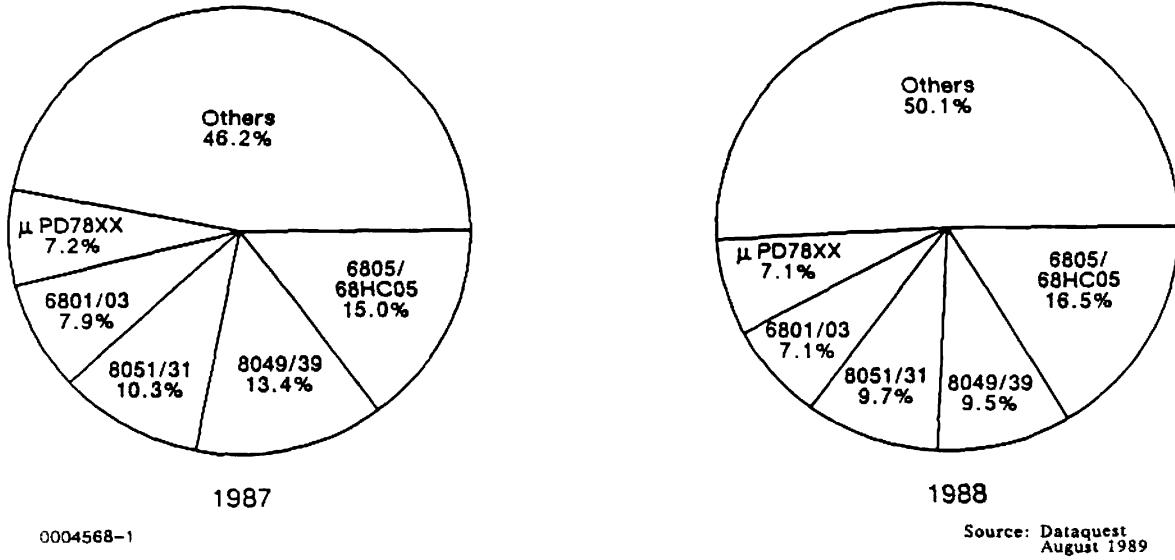|	1985	1986	1987	1988
6500/XX	1.2%	1.6%	1.3%	1.2%
6801/03	7.8	8.3	7.9	7.1
6804	0.3	0.7	1.3	0.9
6805/68HC05	14.3	14.9	15.0	16.5
68HC11	*	0.3	1.2	2.1
8048/35	12.6	6.0	4.7	2.9
8049/39	17.7	12.6	13.4	9.5
8050/40	1.3	1.2	1.8	1.2
8051/31	10.7	9.4	10.3	9.7
8052/32	0.2	1.4	1.8	2.7
84XX	3.8	6.4	3.6	2.7
F8/387X	2.7	3.0	1.5	0.8
M50XX	9.2	13.4	0	0
M509XX	0	0	3.9	5.9
M507XX	0	0	7.1	5.7
PIC165X	2.9	1.4	1.5	1.4
TMS7000	1.0	1.5	2.8	2.0
uPD78XX	7.0	8.2	7.2	7.1
Z8	1.7	2.0	1.4	1.3
Others	5.5	7.7	12.2	19.3
	100.0%	100.0%	100.0%	100.0%

*Calculated value is less than 0.1%.
Notes: Columns may not add to totals shown because of rounding.
        NMOS/CMOS/EPROM versions are included in the market share
        numbers for each product type.

                                        Source: Dataquest
                                                  August 1989
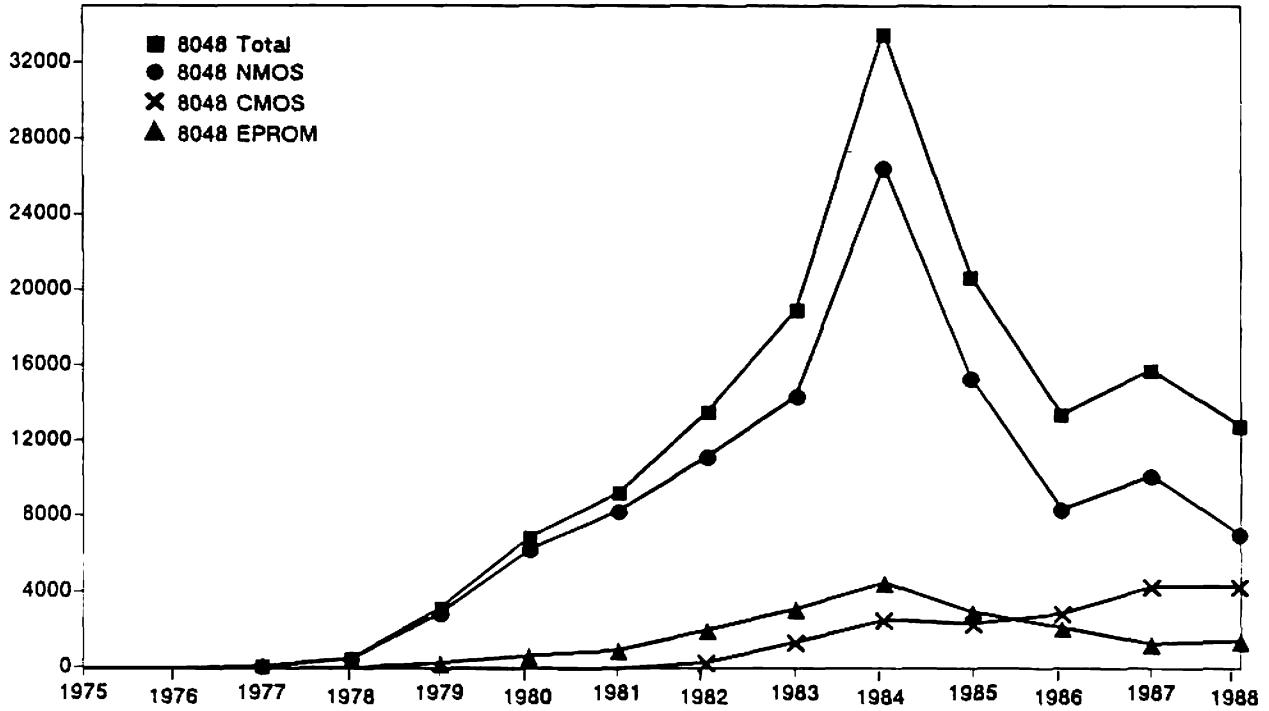
Figure 1

Estimated Market Share by Product Type
for 8–Bit Microcontrollers
1987 and 1988

1987

1988

8–Bit Microcontrollers—Product Analysis

Figure 2

8048 Product Life Cycle

Thousands of Units

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Figure 3

8049 Product Life Cycle

Thousands of Units

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Figure 4

8051 Product Life Cycle

Thousands of Units

Legend:
- ■ 8051 Total
- ● 8051 NMOS
- ✕ 8051 CMOS
- ▲ 8051 EPROM
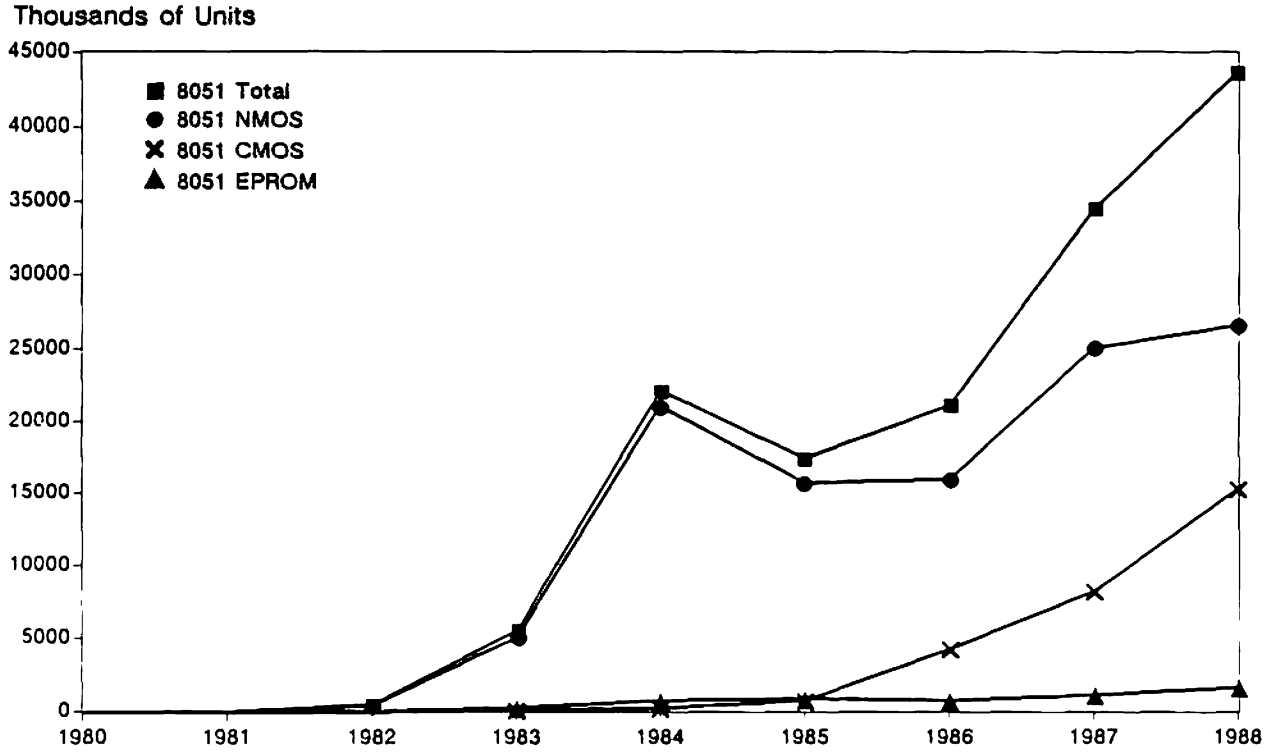
0004568-4

Source: Dataquest
August 1989

Figure 5

6801 Product Life Cycle
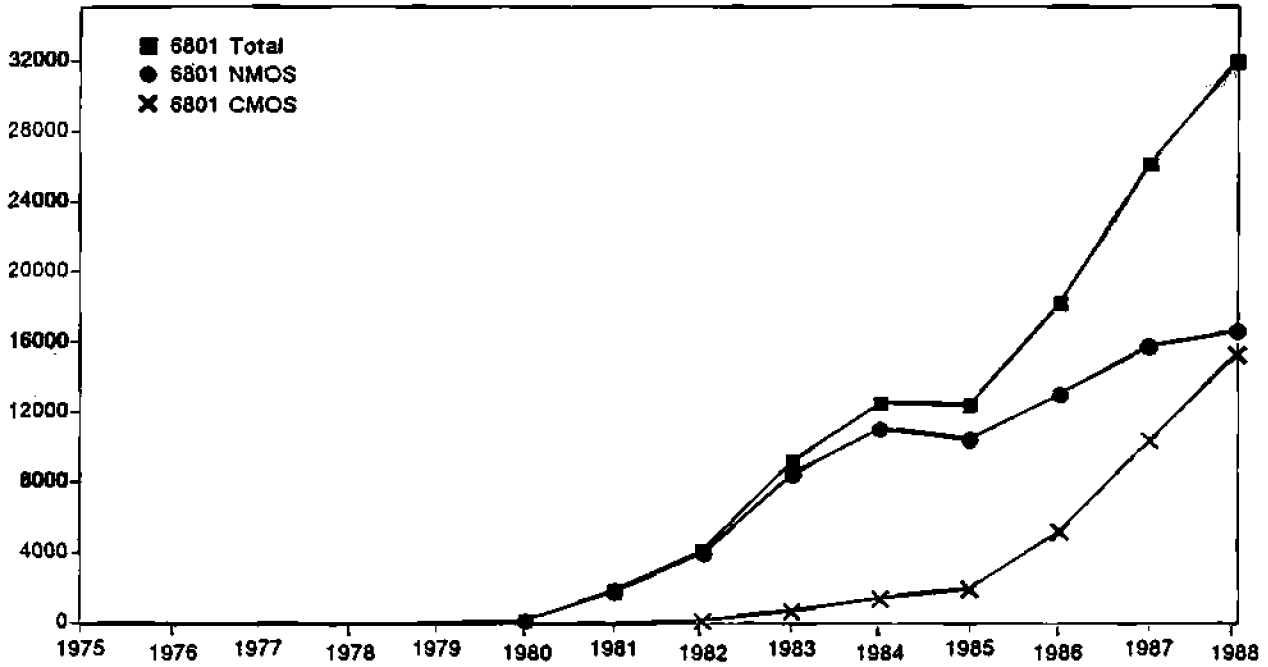
Thousands of Units

Note: NMOS EPROM versions are included in NMOS data.
CMOS EPROM Versions are included in CMOS data.

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Figure 6

6805 Product Life Cycle

Thousands of Units
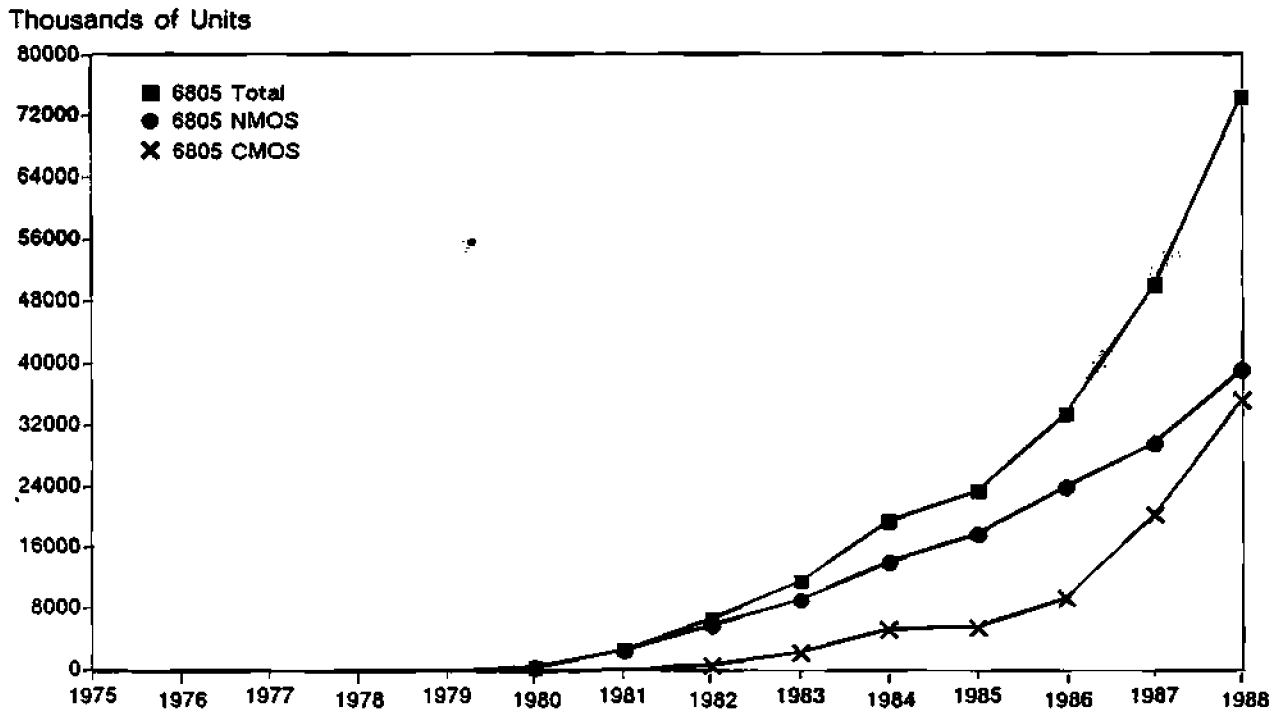

Note: NMOS EPROM versions are included in NMOS data.
CMOS EPROM Versions are included in CMOS data.

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Source: Dataquest
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Table 4

Estimated Market Share by Instruction Set
for 8–Bit Microcontrollers
1975–1979

		1975	1976	1977	1978	1979
Group 1	6500/XX	0	0	0	0	0.1%
Group 2	6801/03	0	0	0	0	0.1
Group 3	6805	0	0	0	0	*
Group 4	8048/35, 8049/39 802X	0	0	11.9%	24.1%	32.9
Group 5	387X, 38P7X, F8	100.0%	100.0%	88.1	55.6	31.5
Group 6	PIC1650	0	0	0	20.3	35.4
	Total 8–Bit MCU	100.0%	100.0%	100.0%	100.0%	100.0%

*Calculated value is less than 0.1%.
Notes: Columns may not add to totals shown because of rounding.
NMOS/CMOS/EPROM versions are included in market share estimates for each instruction set group.

Source: Dataquest
August 1989

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Table 5

Estimated Market Share by Instruction Set
for 8-Bit Microcontrollers
1980-1984

		1980	1981	1982	1983	1984
Group 1	6500/1, 6511, 5074X	0.5%	1.0%	0.6%	1.3%	1.2%
Group 2	6801/03, 6301	0.9	5.4	7.8	10.5	7.8
Group 3	6805, 68HC05 6305, 146805	2.1	8.0	12.4	12.8	11.9
Group 4	8048/35, 8049/39 8050/40, 84XX 8041, 802X	45.4	49.9	53.6	47.7	46.4
Group 5	8051/31, 8052/32 8053, 80515/35 80C451, 80C154	0	0.1	1.0	6.2	13.7
Group 6	387X, 38P7X, F8	25.1	21.2	10.7	5.7	2.7
Group 7	PIC165X	25.8	11.8	7.8	5.0	3.9
Group 8	TMS7000, PIC70XX	0	0.1	0.5	0.8	0.7
Group 9	uPD78XX	0	1.4	3.8	5.5	7.2
Group 10	Z8	0.1	1.0	1.7	2.2	2.5
	Others	0.1	0.2	0.1	2.4	1.9
	Total 8-Bit MCUs	100.0%	100.0%	100.0%	100.0%	100.0%

*Calculated value is less than 0.1%.
Notes: Columns may not add to totals shown because of rounding.
NMOS/CMOS/EPROM versions are included in market share estimates for
each instruction set group.

Source: Dataquest
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8–Bit Microcontrollers—Product Analysis

Table 6

Estimated Market Share by Instruction Set
for 8–Bit Microcontrollers
1985–1988

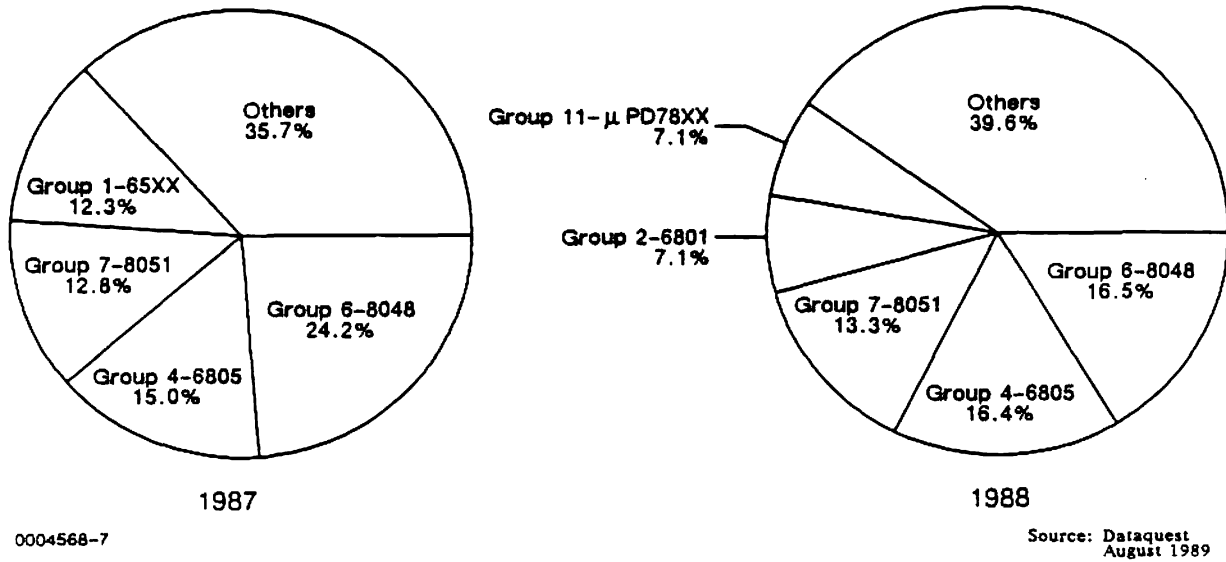|		1985	1986	1987	1988
Group 1	6500/1, 6511, 5074X	10.4%	14.9%	12.3%	6.9%
Group 2	6801/03, 6301	7.8	8.3	7.9	7.1
Group 3	6804	0.3	0.7	1.3	0.9
Group 4	6805, 68HC05 6305, 146805	14.3	14.9	15.0	16.4
Group 5	68HC11	*	0.3	1.2	2.1
Group 6	8048/35, 8049/39 8050/40, 84XX 8041, 802X	39.4	28.0	24.2	16.5
Group 7	8051/31, 8052/32 8053, 80515/35 80C451, 80C154	10.9	10.9	12.8	13.3
Group 8	387X, 38P7X, F8	2.7	3.0	1.5	0.8
Group 9	PIC165X	3.1	1.5	1.6	1.4
Group 10	TMS7000, PIC70XX	1.0	1.5	2.8	2.2
Group 11	uPD78XX	7.0	8.2	7.2	7.1
Group 12	Z8	1.7	2.0	1.4	1.3
	Others	1.4	5.7	10.8	24.2
	Total 8–Bit MCUs	100.0%	100.0%	100.0%	100.0%

*Calculated value is less than 0.1%.
Notes: Columns may not add to totals shown because of rounding. NMOS/CMOS/EPROM versions are included in market share estimates for each instruction set group.

Source: Dataquest
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Figure 7

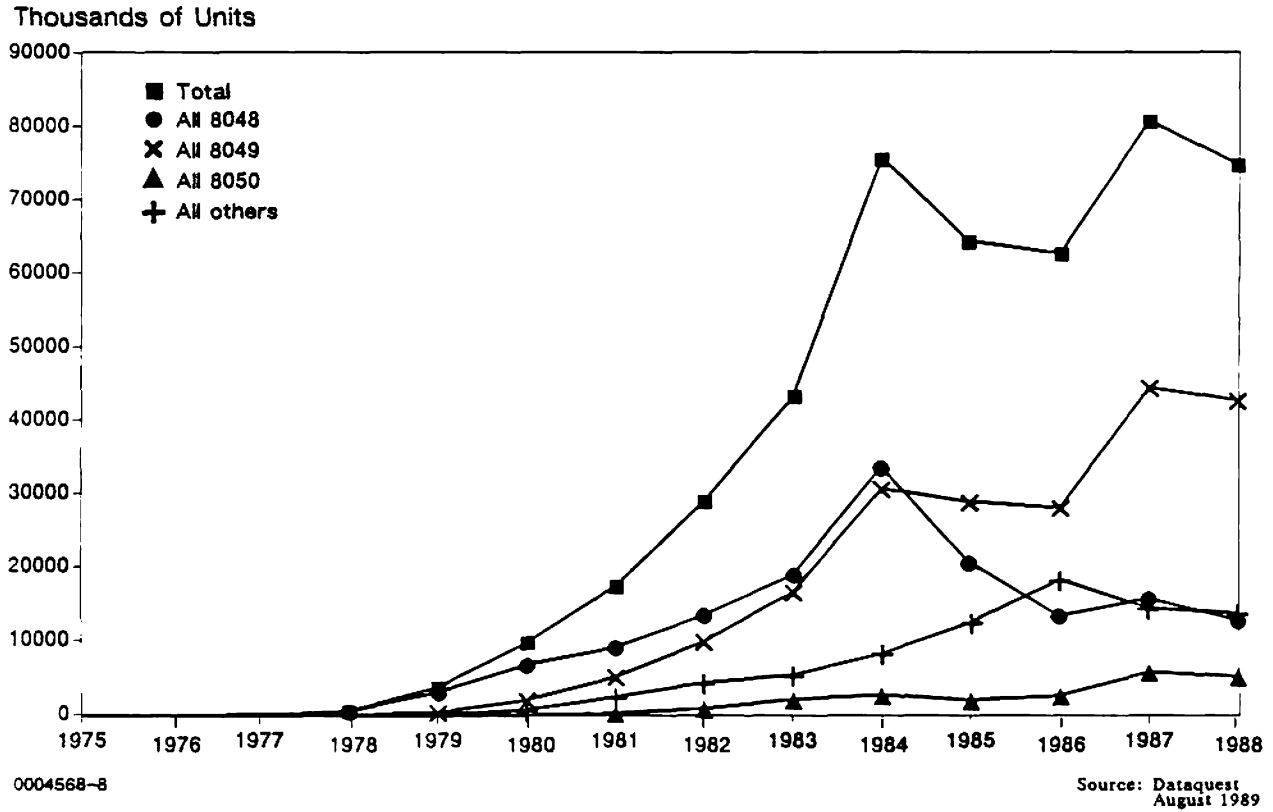**Estimated Market Share by Instruction Set
for 8–Bit Microcontrollers
1987 and 1988**

1987

1988

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Figure 8

8048 Instruction Set Life Cycle

Thousands of Units

Legend:
- ■ Total
- ● All 8048
- ✕ All 8049
- ▲ All 8050
- ✛ All others

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Figure 9

8051 Instruction Set Life Cycle

Thousands of Units

Source: Dataquest
August 1989

0004568-9
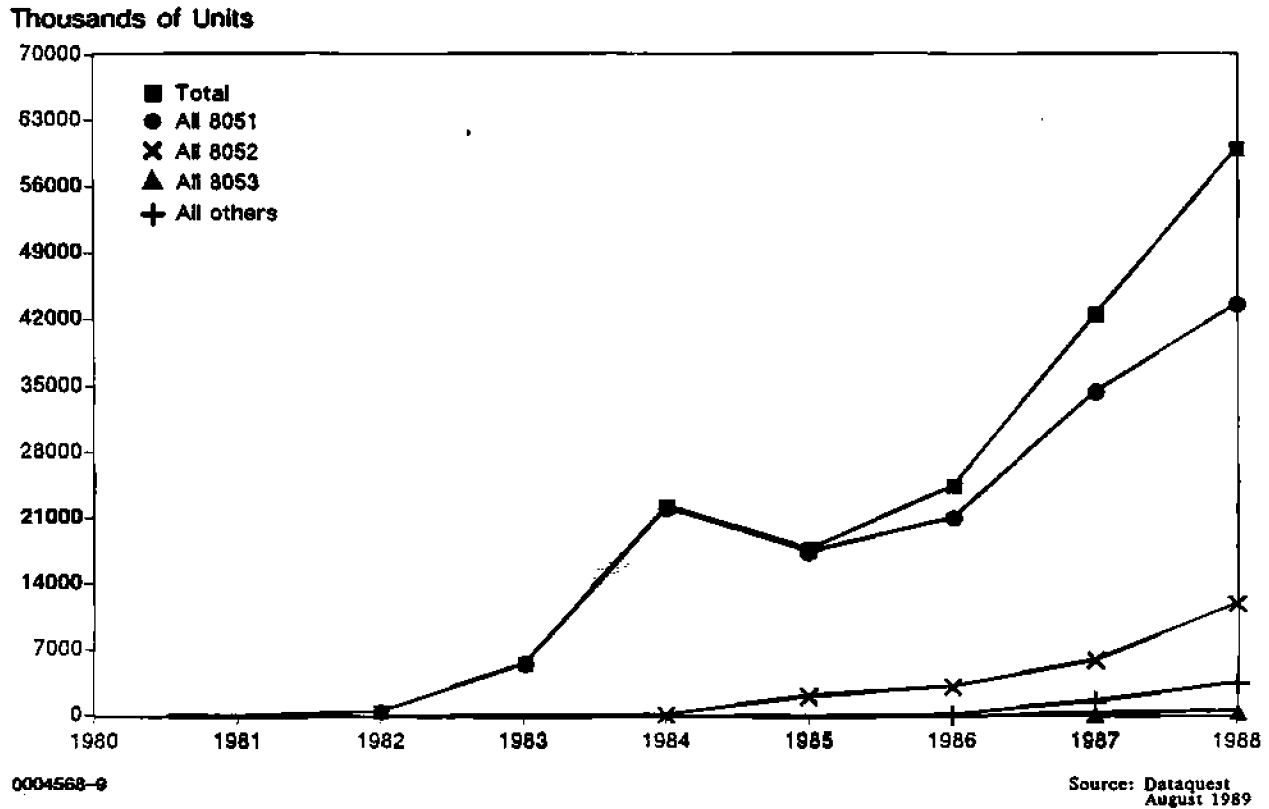
Table 7

Estimated Market Share by Process Technology
for 8-Bit Microcontrollers
1975-1979

	1975	1976	1977	1978	1979
NMOS					
Shipments	32	251	885	2,218	11,592
Percent	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Dataquest
August 1989

Table 8

Estimated Market Share by Process Technology
for 8–Bit Microcontrollers
1980–1984
(Thousands of Units)

	1980	1981	1982	1983	1984
NMOS					
Shipments	21,740	34,836	52,369	82,779	147,135
Percent	100.0%	99.7%	96.8%	91.4%	90.0%
CMOS					
Shipments	0	95	1,745	7,836	16,375
Percent	0	0.3%	3.2%	8.6%	10.0%
Total Shipments	21,740	34,931	54,114	90,615	163,510

Source: Dataquest
August 1989

Table 9

Estimated Market Share by Process Technology
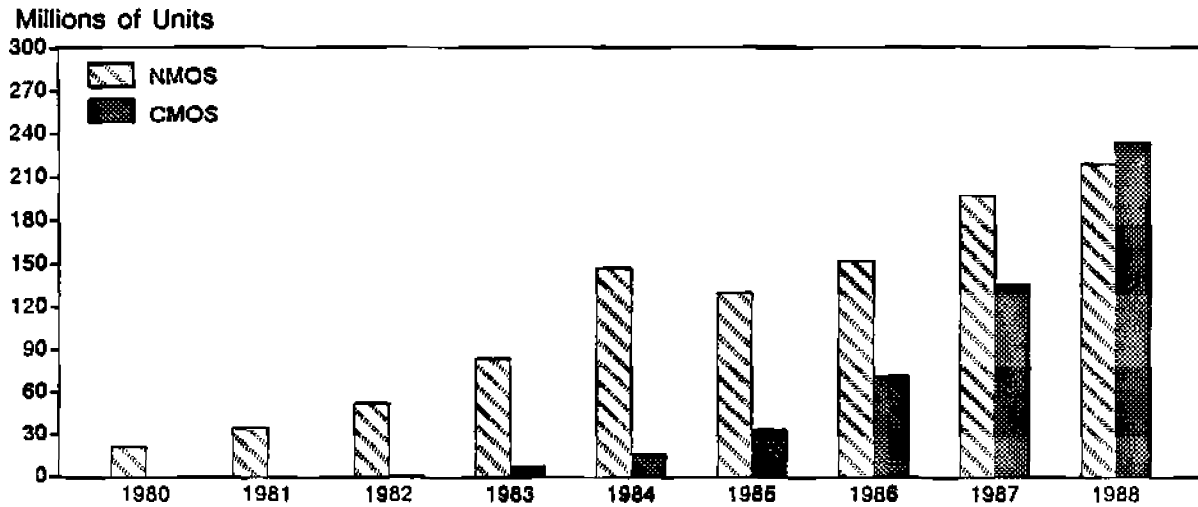### for 8–Bit Microcontrollers
1985–1988
(Thousands of Units)

	1985	1986	1987	1988
NMOS				
Shipments	130,011	151,935	197,450	219,549
Percent	79.5%	67.8%	59.2%	48.4%
CMOS				
Shipments	33,588	72,066	135,912	234,473
Percent	20.5%	32.2%	40.8%	51.6%
Total Shipments	163,599	224,001	333,362	454,022

Source: Dataquest
August 1989

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Figure 10

Estimated Market Share by Process Technology
for 8–Bit Microcontrollers
1980–1988

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Source: Dataquest
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Table 10

Estimated Market Share by Process Technology by Region
for 8–Bit Microcontrollers
1975–1979

	1975	1976	1977	1978	1979
NMOS					
United States	100.0%	100.0%	100.0%	99.3%	91.1%
Japan	0	0	0	0.7	8.5
W. Europe	0	0	0	0	0.4
Total NMOS	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Dataquest
August 1989

Table 11

Estimated Market Share by Process Technology by Region
for 8–Bit Microcontrollers
1980–1984

	1980	1981	1982	1983	1984
NMOS					
United States	73.3%	68.2%	61.8%	59.4%	53.7%
Japan	15.5	20.1	26.0	28.6	33.3
W. Europe	11.2	11.7	12.2	12.1	13.0
Total NMOS	100.0%	100.0%	100.0%	100.0%	100.0%
CMOS					
United States	0	100.0%	39.8%	39.3%	33.7%
Japan	0	0	60.2	60.7	66.1
W. Europe	0	0	0	0	0.1
Total CMOS	0	100.0%	100.0%	100.0%	100.0%

Source: Dataquest
August 1989

Table 12

Estimated Market Share by Process Technology by Region
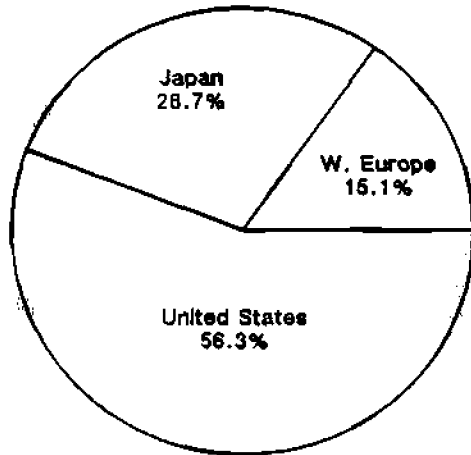for 8–Bit Microcontrollers
1985–1988

	1985	1986	1987	1988
NMOS				
United States	49.5%	46.0%	50.2%	56.3%
Japan	32.8	32.1	32.1	28.7
W. Europe	17.6	22.0	17.8	15.1
Total NMOS	100.0%	100.0%	100.0%	100.0%
CMOS				
United States	16.4%	11.2%	13.7%	17.7%
Japan	83.1	87.8	83.6	79.2
W. Europe	0.5	1.0	2.7	3.1
Total CMOS	100.0%	100.0%	100.0%	100.0%

Source: Dataquest
August 1989

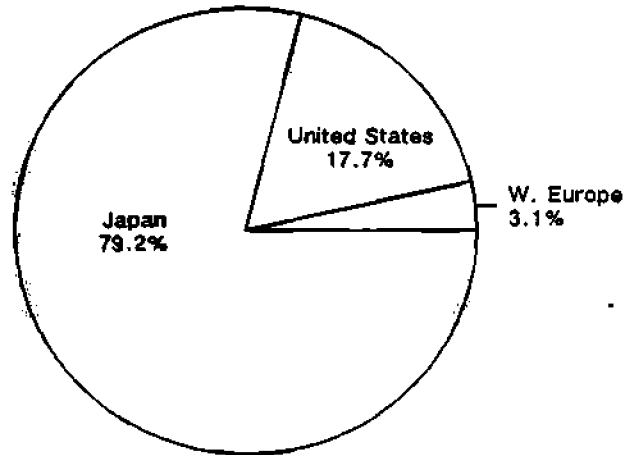© 1989 Dataquest Incorporated August   SIS Microcomponents

Figure 11

Estimated Market Share by Process Technology
by Region for 8–Bit Microcontrollers
1988

NMOS
219.5 Million Units

CMOS
234.4 Million Units

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