

A99 - Diode

WSTS Semiconductor Forecast

A99 - Diode

[illegible]

B99 - SS Transistor

WSTS Semiconductor Forecast

B99 - SS Transistor

[illegible]

Pwr Transist
Code C99

2020		2021	
Q4	Total	Q1	Q2

21	2022	2023
tal	Total	Total

[illegible]

CA - Bipolar PwrTr

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CA - Bipolar PwrTr

[illegible]

IGBT PwrTr
Code CB

	2020		
Q4	Total	Q1	Q2

1	2022	2023
1	Total	Total

[illegible]

MOSFET PwrTr	
Code CC	

Q4	2020 Total	Q1	Q2
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2021	2022	2023
Total	Total	Total

[illegible]

D99 - Rectifier

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D99 - Rectifier

[illegible]

E99 - Thyristor

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E99 - Thyristor

[illegible]

G99 - Other Discrete

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G99 - Other Discrete

[illegible]

S3 - Discrete Total

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S3 - Discrete Total

Discrete Total Code S3	2018 Total	2019 Total	Q1	Q2	2020 Q3	Q4	2020 Total	Q1	Q2	2021 Q3	Q4	2021 Total	2022 Total	2023 Total
Amer - \$M	2260.8	2381.6	544.0	498.7	522.6	526.8	2092.1	534.4	553.3	566.9	557.3	2211.9	2308.8	2394.5
3/3 % \$	22.7	5.3	-0.4	-8.3	4.8	0.8	-12.2	1.4	3.5	2.4	-1.7	5.7	4.4	3.7
% of World	9.4	10.0	9.5	9.2	9.3	9.5	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.3
Europe - \$M	4303.8	4315.9	1039.4	920.5	956.1	966.0	3882.1	990.6	1027.3	1052.4	1027.7	4098.0	4277.6	4455.6
3/3 % \$	14.5	0.3	6.9	-11.4	3.9	1.0	-10.1	2.6	3.7	2.4	-2.3	5.6	4.4	4.2
% of World	17.9	18.1	18.2	17.0	17.1	17.3	17.4	17.4	17.4	17.4	17.3	17.4	17.4	17.3
Japan - \$M	3410.4	3498.9	895.2	828.0	843.4	849.8	3416.4	871.5	897.4	920.5	904.3	3593.7	3734.5	3894.0
3/3 % \$	7.4	2.6	-0.2	-7.5	1.9	0.8	-2.4	2.6	3.0	2.6	-1.8	5.2	3.9	4.3
% of World	14.1	14.7	15.7	15.3	15.1	15.3	15.3	15.3	15.2	15.2	15.3	15.2	15.2	15.1
JPN - ¥100M	3764.7	3810.4	976.7	903.5	920.3	927.2	3727.7	951.0	979.2	1004.3	986.7	3921.2	4074.8	4248.9
3/3 % ¥	5.7	1.2	0.1	-7.5	1.9	0.8	-2.2	2.6	3.0	2.6	-1.8	5.2	3.9	4.3
Asia Pac - \$M	14126.8	13684.2	3241.2	3170.3	3279.6	3227.6	12918.6	3298.3	3419.7	3517.4	3436.5	13671.9	14326.9	14969.7
3/3 % \$	9.7	-3.1	-5.5	-2.2	3.4	-1.6	-5.6	2.2	3.7	2.9	-2.3	5.8	4.8	4.5
% of World	58.6	57.3	56.7	58.5	58.5	57.9	57.9	57.9	58.0	58.1	58.0	58.0	58.1	58.2
World - \$M	24101.8	23880.6	5719.7	5417.5	5601.8	5570.2	22309.2	5694.8	5897.8	6057.1	5925.8	23575.6	24647.7	25713.8
3/3 % \$	11.3	-0.9	-2.1	-5.3	3.4	-0.6	-6.6	2.2	3.6	2.7	-2.2	5.7	4.5	4.3
A99 - Diode	3146.5	2794.5	663.0	621.0	644.7	639.1	2567.9	645.9	665.8	684.4	671.6	2667.7	2746.3	2806.3
3/3 % \$	6.8	-11.2	-3.9	-6.3	3.8	-0.9	-8.1	1.1	3.1	2.8	-1.9	3.9	2.9	2.2
B99 - SS Transistor	2113.1	1967.5	480.6	459.3	471.7	465.0	1876.5	470.2	478.0	492.7	483.4	1924.3	1993.2	2031.2
3/3 % \$	7.5	-6.9	-1.9	-4.4	2.7	-1.4	-4.6	1.1	1.7	3.1	-1.9	2.5	3.6	1.9
C99 - Pwr Transist	14445.4	15108.8	3579.8	3395.2	3517.5	3502.9	13995.4	3597.7	3750.5	3856.1	3773.5	14977.8	15757.7	16592.5
3/3 % \$	14.4	4.6	-2.4	-5.2	3.6	-0.4	-7.4	2.7	4.2	2.8	-2.1	7.0	5.2	5.3
D99 - Rectifier	3463.1	3208.7	814.5	769.9	784.4	780.6	3149.4	800.6	816.1	833.8	810.3	3260.8	3373.1	3481.2
3/3 % \$	6.2	-7.3	0.7	-5.5	1.9	-0.5	-1.8	2.6	1.9	2.2	-2.8	3.5	3.4	3.2
E99 - Thyristor	779.0	660.7	139.2	130.7	140.5	138.9	549.3	138.7	144.0	145.3	141.0	569.0	592.9	610.8
3/3 % \$	8.4	-15.2	-5.6	-6.1	7.5	-1.1	-16.9	-0.1	3.9	0.9	-2.9	3.6	4.2	3.0
G99 - Other Discrete	154.8	140.3	42.5	41.4	43.0	43.7	170.7	41.8	43.4	44.9	46.0	176.1	184.5	191.8
3/3 % \$	18.6	-9.3	6.8	-2.6	3.8	1.6	21.6	-4.2	3.7	3.4	2.5	3.2	4.8	4.0
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F99 - Optoelectronics

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F99 - Optoelectronics

Optoelectronics Code F99	2018 Total	2019 Total	Q1	Q2	2020 Q3	Q4	2020 Total	Q1	Q2	2021 Q3	Q4	2021 Total	2022 Total	2023 Total
Amer - \$M	6099.7	6170.8	1492.2	1363.9	1508.5	1533.3	5897.9	1455.5	1508.6	1660.9	1635.5	6260.4	6720.3	7071.7
3/3 % \$	-2.1	1.2	-19.1	-8.6	10.6	1.6	-4.4	-5.1	3.7	10.1	-1.5	6.1	7.3	5.2
% of World	16.0	14.8	15.3	14.7	14.8	15.0	15.0	14.8	14.8	15.1	15.1	15.0	14.8	14.7
Europe - \$M	3088.5	3344.6	877.7	781.2	832.0	850.9	3341.9	840.4	866.4	927.4	915.2	3549.4	3836.3	4046.8
3/3 % \$	7.3	8.3	6.0	-11.0	6.5	2.3	-0.1	-1.2	3.1	7.0	-1.3	6.2	8.1	5.5
% of World	8.1	8.0	9.0	8.4	8.2	8.3	8.5	8.5	8.5	8.4	8.4	8.5	8.5	8.4
Japan - \$M	5474.4	5085.6	1185.6	1124.2	1186.0	1204.0	4699.7	1151.4	1176.8	1258.9	1246.1	4833.2	5193.9	5455.6
3/3 % \$	-4.6	-7.1	-5.8	-5.2	5.5	1.5	-7.6	-4.4	2.2	7.0	-1.0	2.8	7.5	5.0
% of World	14.4	12.2	12.2	12.1	11.7	11.8	11.9	11.7	11.6	11.5	11.5	11.5	11.4	11.3
JPN - ¥100M	6043.7	5539.2	1293.6	1226.6	1294.1	1313.7	5128.0	1256.3	1284.1	1373.6	1359.6	5273.7	5667.3	5952.8
3/3 % ¥	-6.1	-8.3	-5.6	-5.2	5.5	1.5	-7.4	-4.4	2.2	7.0	-1.0	2.8	7.5	5.0
Asia Pac - \$M	23369.8	26960.0	6200.3	6030.9	6647.4	6623.3	25501.9	6396.0	6608.4	7134.3	7068.6	27207.2	29627.4	31546.5
3/3 % \$	17.0	15.4	-17.4	-2.7	10.2	-0.4	-5.4	-3.4	3.3	8.0	-0.9	6.7	8.9	6.5
% of World	61.4	64.9	63.6	64.8	65.3	64.9	64.7	65.0	65.0	65.0	65.1	65.0	65.3	65.6
World - \$M	38032.3	41561.0	9755.9	9300.1	10173.9	10211.5	39441.4	9843.2	10160.2	10981.5	10865.3	41850.3	45378.0	48120.6
3/3 % \$	9.2	9.3	-14.7	-4.7	9.4	0.4	-5.1	-3.6	3.2	8.1	-1.1	6.1	8.4	6.0
F1 - Display	324.9	347.3	87.2	81.4	82.8	85.9	337.3	85.3	85.1	88.1	89.1	347.6	356.9	363.0
3/3 % \$	-2.8	6.9	-3.8	-6.7	1.8	3.6	-2.9	-0.6	-0.3	3.6	1.1	3.1	2.7	1.7
F10 - LIGHT SENSOR	1118.9	1985.8	387.7	386.2	468.2	509.4	1751.5	439.6	458.8	544.5	551.5	1994.3	2411.4	2743.8
3/3 % \$	41.8	77.5	-37.2	-0.4	21.2	8.8	-11.8	-13.7	4.4	18.7	1.3	13.9	20.9	13.8
F2 - Lamp	13193.7	12539.8	2864.7	2625.0	2772.0	2816.0	11077.7	2819.5	2879.4	2969.3	2922.7	11590.9	12077.6	12397.9
3/3 % \$	11.2	-5.0	-9.0	-8.4	5.6	1.6	-11.7	0.1	2.1	3.1	-1.6	4.6	4.2	2.7
F3 - Coupler	1646.3	1517.0	377.4	368.5	381.8	375.9	1503.6	372.8	385.4	404.4	389.4	1552.0	1602.6	1640.5
3/3 % \$	7.7	-7.9	0.4	-2.4	3.6	-1.5	-0.9	-0.8	3.4	4.9	-3.7	3.2	3.3	2.4
F5 - Image_Sensor	15477.2	19323.0	4574.3	4459.2	5034.9	5003.3	19071.6	4707.2	4897.7	5458.7	5430.0	20493.5	22817.3	24671.6
3/3 % \$	11.6	24.8	-20.4	-2.5	12.9	-0.6	-1.3	-5.9	4.0	11.5	-0.5	7.5	11.3	8.1
F6 - Oth_Opto	3112.2	2415.2	549.4	509.0	523.4	530.7	2112.5	522.9	533.7	549.5	546.1	2152.3	2165.3	2169.5
3/3 % \$	-13.7	-22.4	-7.1	-7.3	2.8	1.4	-12.5	-1.5	2.1	3.0	-0.6	1.9	0.6	0.2
F7 - Infrared	1107.0	1045.5	251.1	240.4	252.2	252.2	996.0	249.6	257.2	268.1	260.3	1035.2	1097.5	1142.2
3/3 % \$	28.2	-5.6	-2.1	-4.3	4.9	0.0	-4.7	-1.0	3.0	4.3	-2.9	3.9	6.0	4.1
F8 - Lsr_Pickup	341.6	499.2	141.3	133.3	137.6	127.2	539.4	127.6	133.5	139.7	134.1	534.9	554.6	570.7
3/3 % \$	-10.2	46.2	5.0	-5.6	3.2	-7.6	8.0	0.4	4.6	4.6	-4.0	-0.8	3.7	2.9
F9 - Lsr_Transmitter	1710.4	1888.1	522.8	497.0	520.9	510.9	2051.6	518.6	529.4	559.2	542.2	2149.4	2294.7	2421.3
3/3 % \$	8.0	10.4	9.8	-4.9	4.8	-1.9	8.7	1.5	2.1	5.6	-3.0	4.8	6.8	5.5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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H99 - Sensors

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H99 - Sensors

[illegible]

J99 - Analog

WSTS Semiconductor Forecast

J99 - Analog

[illegible]

J0 - GP Analog

WSTS Semiconductor Forecast

J0 - GP Analog

[illegible]

JA - App Spec Analog

WSTS Semiconductor Forecast

JA - App Spec Analog

[illegible]

JB - Consumer Analog

WSTS Semiconductor Forecast

JB - Consumer Analog

[illegible]

JC - Computer Analog

WSTS Semiconductor Forecast

JC - Computer Analog

[illegible]

JD - Communic Analog

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JD - Communic Analog

Communic Analog Code JD	2018	2019	2020				2020	2021				2021	2022	2023
	Total	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Total	Total
Amer - \$M	2417.2	2078.4	620.9	578.3	626.3	641.2	2466.8	621.9	606.2	665.2	679.6	2572.9	2701.8	2788.8
3/3 % \$	-17.2	-14.0	9.3	-6.9	8.3	2.4	18.7	-3.0	-2.5	9.7	2.2	4.3	5.0	3.2
% of World	13.7	13.6	16.7	16.5	16.2	16.0	16.3	15.9	15.9	16.0	15.9	15.9	15.8	15.7
Europe - \$M	1779.2	1378.4	232.5	202.7	222.0	237.1	894.4	228.8	221.3	237.7	247.1	934.8	978.5	1011.9
3/3 % \$	44.9	-22.5	-25.8	-12.8	9.5	6.8	-35.1	-3.5	-3.3	7.4	3.9	4.5	4.7	3.4
% of World	10.1	9.0	6.2	5.8	5.8	5.9	5.9	5.8	5.8	5.7	5.8	5.8	5.7	5.7
Japan - \$M	1189.6	981.0	213.8	205.1	219.7	226.4	865.1	221.4	216.1	233.1	239.7	910.2	957.5	987.9
3/3 % \$	51.1	-17.5	-13.9	-4.1	7.1	3.0	-11.8	-2.2	-2.4	7.9	2.8	5.2	5.2	3.2
% of World	6.8	6.4	5.7	5.8	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6
JPN - ¥100M	1313.1	1068.4	233.3	223.8	239.7	247.0	943.9	241.6	235.8	254.3	261.5	993.2	1044.7	1077.9
3/3 % ¥	48.7	-18.6	-13.7	-4.1	7.1	3.0	-11.7	-2.2	-2.4	7.9	2.8	5.2	5.2	3.2
Asia Pac - \$M	12232.2	10838.8	2660.6	2529.2	2786.5	2892.7	10869.1	2841.6	2762.3	3010.0	3100.7	11714.6	12446.0	12969.1
3/3 % \$	15.5	-11.4	-2.6	-4.9	10.2	3.8	0.3	-1.8	-2.8	9.0	3.0	7.8	6.2	4.2
% of World	69.4	71.0	71.4	71.9	72.3	72.4	72.0	72.6	72.6	72.6	72.7	72.6	72.9	73.0
World - \$M	17618.2	15276.7	3728.0	3515.4	3854.5	3997.4	15095.3	3913.7	3805.9	4146.0	4266.9	16132.5	17083.7	17757.6
3/3 % \$	13.5	-13.3	-3.4	-5.7	9.6	3.7	-1.2	-2.1	-2.8	8.9	2.9	6.9	5.9	3.9
JDa - Cell Phone	12317.2	9639.8	2425.4	2250.1	2485.0	2603.0	9763.5	2540.4	2433.6	2660.7	2752.2	10386.9	10947.3	11320.5
3/3 % \$	17.5	-21.7	-1.7	-7.2	10.4	4.7	1.3	-2.4	-4.2	9.3	3.4	6.4	5.4	3.4
JDb - Infrastructure	958.9	1166.0	297.9	299.6	312.9	319.5	1229.9	333.5	339.9	354.9	363.5	1391.7	1530.7	1663.9
3/3 % \$	19.1	21.6	1.0	0.6	4.4	2.1	5.5	4.4	1.9	4.4	2.4	13.2	10.0	8.7
JDc - Short Range	2142.9	2210.9	512.3	496.9	561.8	570.8	2141.9	536.7	543.2	611.2	619.9	2311.0	2458.0	2550.5
3/3 % \$	-0.5	3.2	-13.7	-3.0	13.1	1.6	-3.1	-6.0	1.2	12.5	1.4	7.9	6.4	3.8
JDd - Oth Wireless	606.9	875.0	156.8	152.7	165.4	163.3	638.2	169.0	167.7	180.4	181.2	698.4	763.5	822.3
3/3 % \$	23.3	44.2	-6.7	-2.6	8.3	-1.3	-27.1	3.5	-0.8	7.6	0.4	9.4	9.3	7.7
JDe - Wired Comm &	1592.3	1384.9	335.6	316.1	329.3	340.8	1321.8	334.1	321.6	338.8	350.1	1344.6	1384.2	1400.4
3/3 % \$	0.2	-13.0	-0.4	-5.8	4.2	3.5	-4.6	-1.9	-3.8	5.4	3.3	1.7	2.9	1.2
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Automotive Analog
Code JE

	2020
Q4	Total

2021	2022	2023
Total	Total	Total

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Industry Analog Code JF

	2020		
Q4	Total	Q1	Q2

2021	2022	2023
Total	Total	Total

[illegible]

MOS Micro
Code P99

	2020		
Q4	Total	Q1	Q2

1	2022	2023
1	Total	Total

[illegible]

P1 - MOS MPU

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P1 - MOS MPU

[illegible]

P2 - MOS MCU

WSTS Semiconductor Forecast

P2 - MOS MCU

[illegible]

P4 - MOS DSP

WSTS Semiconductor Forecast

P4 - MOS DSP

[illegible]

L99 - MOS Logic

WSTS Semiconductor Forecast

L99 - MOS Logic

[illegible]

LS - MOS Std Logic

WSTS Semiconductor Forecast

LS - MOS Std Logic

MOS Std Logic Code LS	2018 Total	2019 Total	Q1	Q2	2020 Q3	Q4	2020 Total	Q1	Q2	2021 Q3	Q4	2021 Total	2022 Total	2023 Total
Amer - \$M	4072.3	4193.9	1000.0	941.5	1034.2	1057.5	4033.2	1039.8	1055.8	1075.5	1088.1	4259.1	4463.4	4680.2
3/3 % \$	23.5	3.0	12.0	-5.8	9.8	2.3	-3.8	-1.7	1.5	1.9	1.2	5.6	4.8	4.9
% of World	17.9	17.4	16.8	16.7	17.2	17.5	17.1	17.3	17.3	17.1	17.2	17.2	17.3	17.4
Europe - \$M	2966.9	2584.8	571.7	534.1	586.5	600.3	2292.6	589.7	597.6	608.1	614.5	2410.0	2514.3	2615.4
3/3 % \$	30.7	-12.9	15.3	-6.6	9.8	2.3	-11.3	-1.8	1.3	1.8	1.1	5.1	4.3	4.0
% of World	13.0	10.7	9.6	9.5	9.8	9.9	9.7	9.8	9.8	9.7	9.7	9.7	9.7	9.7
Japan - \$M	2305.5	2073.1	486.1	484.7	548.4	512.9	2032.1	521.0	527.8	539.2	545.0	2132.9	2206.9	2284.3
3/3 % \$	-1.4	-10.1	-3.4	-0.3	13.2	-6.5	-2.0	1.6	1.3	2.2	1.1	5.0	3.5	3.5
% of World	10.1	8.6	8.2	8.6	9.1	8.5	8.6	8.7	8.6	8.6	8.6	8.6	8.5	8.5
JPN - ¥100M	2546.1	2259.8	530.4	528.9	598.4	559.6	2217.3	568.4	575.9	588.3	594.6	2327.3	2408.0	2492.4
3/3 % ¥	-3.0	-11.2	-3.2	-0.3	13.2	-6.5	-1.9	1.6	1.3	2.2	1.1	5.0	3.5	3.5
Asia Pac - \$M	13406.6	15295.3	3876.9	3680.7	3832.5	3883.6	15273.6	3867.4	3936.4	4057.3	4073.4	15934.5	16634.4	17315.5
3/3 % \$	-3.0	14.1	-5.0	-5.1	4.1	1.3	-0.1	-0.4	1.8	3.1	0.4	4.3	4.4	4.1
% of World	58.9	63.3	65.3	65.2	63.9	64.1	64.6	64.3	64.3	64.6	64.4	64.4	64.4	64.4
World - \$M	22751.3	24147.1	5934.7	5640.9	6001.6	6054.3	23631.5	6017.8	6117.6	6280.2	6321.0	24736.6	25819.0	26895.3
3/3 % \$	4.7	6.1	-0.6	-5.0	6.4	0.9	-2.1	-0.6	1.7	2.7	0.6	4.7	4.4	4.2
L1 - Bipolar Digital	59.1	51.1	13.1	12.2	12.1	12.0	49.5	12.1	12.4	12.3	12.2	49.0	48.5	47.9
3/3 % \$	6.9	-13.5	5.3	-6.9	-0.9	-1.1	-3.1	1.2	2.6	-1.6	-0.6	-1.0	-1.0	-1.4
L2a - MOS GP Logic	1447.4	1204.9	288.6	267.5	274.5	271.8	1102.4	266.7	267.6	280.4	276.4	1091.0	1092.2	1087.5
3/3 % \$	-12.8	-16.8	-4.5	-7.3	2.6	-1.0	-8.5	-1.9	0.3	4.8	-1.4	-1.0	0.1	-0.4
L2b - MOS Gate Array	75.3	67.0	17.3	15.9	15.4	14.8	63.4	14.9	15.0	14.4	13.8	58.2	55.3	52.6
3/3 % \$	-13.4	-10.9	-7.3	-8.3	-3.2	-3.6	-5.3	0.7	0.6	-3.9	-4.4	-8.2	-4.9	-5.0
L2c - MOS Std Cell, F	12099.1	13509.9	3211.7	3121.8	3373.5	3415.9	13122.8	3435.2	3481.0	3537.5	3549.7	14003.4	14751.0	15556.9
3/3 % \$	12.1	11.7	-7.7	-2.8	8.1	1.3	-2.9	0.6	1.3	1.6	0.3	6.7	5.3	5.5
L3 - MOS Display Driver	5821.5	6261.6	1632.7	1495.9	1583.8	1577.7	6290.1	1546.0	1578.0	1662.4	1684.7	6471.1	6691.2	6903.4
3/3 % \$	-1.4	7.6	17.7	-8.4	5.9	-0.4	0.5	-2.0	2.1	5.3	1.3	2.9	3.4	3.2
L4 - MOS Touch Screen	3249.0	3052.6	771.3	727.7	742.3	762.0	3003.2	742.8	763.6	773.2	784.2	3063.8	3180.8	3247.0
3/3 % \$	0.8	-6.0	-0.1	-5.7	2.0	2.7	-1.6	-2.5	2.8	1.3	1.4	2.0	3.8	2.1
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L1 - Bipolar Digital

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L1 - Bipolar Digital

[illegible]

MOS GP Logic
Code L2a

	2020
Q4	Total

2021	2022	2023
Total	Total	Total

[illegible]

MOS Gate Arrays

2020	
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2021	2022	2023
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[illegible]

MOS Std Cell, FPLD

2020	
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2021	2022	2023
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[illegible]

L3 - MOS Display Driver

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L3 - MOS Display Driver

[illegible]

L4 - MOS Touch Screen Controllers

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L4 - MOS Touch Screen Controlers

[illegible]

MOS SP Logic
Code LA

2020		2021	
Q4	Total	Q1	Q2

2021	2022	2023
Total	Total	Total

[illegible]

Consumer SP Logic
Code L5

	2020
Q4	Total

2021	2022	2023
Total	Total	Total

[illegible]

L6 - Computer SP Logic

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L6 - Computer SP Logic

[illegible]

L7 - Communication SP Logic

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L7 - Communication SP Logic

Communication SP L	2018	2019			2020	2020			2021		2021	2022	2023	
Code L7	Total	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Total	Total
Amer - \$M	9723.6	9763.8	2546.3	2523.4	2743.4	3379.4	11192.5	2719.7	2728.9	2898.8	3148.6	11496.0	11979.0	12285.6
3/3 % \$	1.3	0.4	-28.0	-0.9	8.7	23.2	14.6	-19.5	0.3	6.2	8.6	2.7	4.2	2.6
% of World	22.0	24.0	25.1	25.1	25.8	30.5	26.7	26.3	26.1	26.5	27.8	26.7	26.7	26.7
Europe - \$M	1381.6	1505.6	371.6	354.1	371.9	302.2	1399.8	342.6	346.8	361.3	363.9	1414.6	1445.7	1460.8
3/3 % \$	1.6	9.0	2.0	-4.7	5.0	-18.7	-7.0	13.4	1.2	4.2	0.7	1.1	2.2	1.0
% of World	3.1	3.7	3.7	3.5	3.5	2.7	3.3	3.3	3.3	3.3	3.2	3.3	3.2	3.2
Japan - \$M	2566.7	2083.7	459.5	453.1	476.5	384.9	1773.9	432.4	438.6	459.9	468.1	1799.0	1839.7	1853.0
3/3 % \$	11.7	-18.8	-7.0	-1.4	5.2	-19.2	-14.9	12.4	1.4	4.9	1.8	1.4	2.3	0.7
% of World	5.8	5.1	4.5	4.5	4.5	3.5	4.2	4.2	4.2	4.2	4.1	4.2	4.1	4.0
JPN - ¥100M	2835.1	2264.6	501.4	494.3	519.9	420.0	1935.6	471.9	478.5	501.8	510.7	1962.9	2007.4	2021.9
3/3 % ¥	10.0	-20.1	-6.7	-1.4	5.2	-19.2	-14.5	12.4	1.4	4.9	1.8	1.4	2.3	0.7
Asia Pac - \$M	30459.3	27323.2	6778.1	6706.2	7040.6	7018.2	27543.0	6834.8	6946.9	7227.7	7325.8	28335.2	29567.8	30363.6
3/3 % \$	-0.6	-10.3	-1.3	-1.1	5.0	-0.3	0.8	-2.6	1.6	4.0	1.4	2.9	4.4	2.7
% of World	69.0	67.2	66.7	66.8	66.2	63.3	65.7	66.2	66.4	66.0	64.8	65.8	66.0	66.1
World - \$M	44131.3	40676.3	10155.5	10036.8	10632.3	11084.7	41909.3	10329.5	10461.2	10947.8	11306.4	43044.8	44832.2	45963.0
3/3 % \$	0.5	-7.8	-9.8	-1.2	5.9	4.3	3.0	-6.8	1.3	4.7	3.3	2.7	4.2	2.5
L7a - Cell Phone	3020.7	3157.1	906.2	897.1	945.3	957.5	3706.1	905.2	912.2	950.5	962.1	3730.0	3892.1	4020.2
3/3 % \$	5.0	4.5	11.9	-1.0	5.4	1.3	17.4	-5.5	0.8	4.2	1.2	0.6	4.3	3.3
L7b - Infrastructure	142.1	0.0	-	-	-	-	0.0	-	-	-	-	0.0	0.0	0.0
3/3 % \$	-8.7	-100.0	-	-	-	-	0.0	-	-	-	-	0.0	0.0	0.0
L7c - Short Range	9016.7	7573.8	1906.5	1899.1	2051.5	2097.6	7954.7	2009.3	2048.7	2164.9	2198.0	8420.9	8745.9	8990.2
3/3 % \$	10.8	-16.0	-8.2	-0.4	8.0	2.2	5.0	-4.2	2.0	5.7	1.5	5.9	3.9	2.8
L7d - Other Wireless	209.8	372.4	108.8	106.1	112.0	116.1	443.0	116.7	118.6	124.3	128.9	488.6	534.0	576.5
3/3 % \$	12.6	77.5	7.9	-2.5	5.6	3.6	19.0	0.6	1.6	4.8	3.7	10.3	9.3	8.0
L7e - Wired Comm	8213.9	8127.3	2048.4	2057.4	2153.7	2184.5	8443.9	2100.3	2138.8	2222.7	2244.3	8706.0	9053.4	9320.5
3/3 % \$	5.2	-1.1	-1.9	0.4	4.7	1.4	3.9	-3.9	1.8	3.9	1.0	3.1	4.0	3.0
L7f - Application Pro	23528.1	21445.8	5185.6	5077.1	5369.7	5729.1	21361.6	5198.0	5242.9	5485.4	5773.1	21699.4	22606.8	23055.5
3/3 % \$	-4.9	-8.9	-16.2	-2.1	5.8	6.7	-0.4	-9.3	0.9	4.6	5.2	1.6	4.2	2.0
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L8 - Automotive SP Logic

WSTS Semiconductor Forecast

L8 - Automotive SP Logic

[illegible]

L9 - Multipurpose SP Logic

WSTS Semiconductor Forecast

L9 - Multipurpose SP Logic

[illegible]

M99 - MOS Memory

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M99 - MOS Memory

MOS Memory Code M99	2018 Total	2019 Total	Q1	Q2	2020 Q3	Q4	2020 Total	Q1	Q2	2021 Q3	Q4	2021 Total	2022 Total	2023 Total
Amer - \$M	51591.6	28425.6	9039.3	9042.9	9335.2	8884.4	36301.8	9391.0	9807.8	10346.0	10569.7	40114.6	43639.9	46351.0
3/3 % \$	25.2	-44.9	9.1	0.0	3.2	-4.8	27.7	5.7	4.4	5.5	2.2	10.5	8.8	6.2
% of World	32.7	26.7	31.9	29.3	29.1	28.6	29.7	29.4	29.4	29.5	29.6	29.5	29.5	29.7
Europe - \$M	7987.0	5786.3	1736.2	1560.0	1586.6	1503.9	6386.8	1679.0	1737.8	1803.1	1829.9	7049.8	7399.2	7636.0
3/3 % \$	24.1	-27.6	14.2	-10.1	1.7	-5.2	10.4	11.6	3.5	3.8	1.5	10.4	5.0	3.2
% of World	5.1	5.4	6.1	5.1	4.9	4.8	5.2	5.3	5.2	5.1	5.1	5.2	5.0	4.9
Japan - \$M	7117.3	5241.1	1216.6	1284.3	1309.3	1233.8	5044.0	1237.4	1266.9	1332.6	1328.1	5165.0	5298.2	5346.0
3/3 % \$	13.9	-26.4	-3.5	5.6	1.9	-5.8	-3.8	0.3	2.4	5.2	-0.3	2.4	2.6	0.9
% of World	4.5	4.9	4.3	4.2	4.1	4.0	4.1	3.9	3.8	3.8	3.7	3.8	3.6	3.4
JPN - ¥100M	7858.4	5702.2	1327.4	1401.3	1428.6	1346.2	5503.6	1350.2	1382.3	1454.1	1449.1	5635.7	5781.0	5833.2
3/3 % ¥	12.1	-27.4	-3.2	5.6	1.9	-5.8	-3.5	0.3	2.4	5.2	-0.3	2.4	2.6	0.9
Asia Pac - \$M	91270.9	66986.9	16368.8	19003.3	19833.6	19419.9	74625.7	19652.1	20588.6	21544.5	21961.0	83746.2	91778.3	96923.4
3/3 % \$	30.2	-26.6	0.7	16.1	4.4	-2.1	11.4	1.2	4.8	4.6	1.9	12.2	9.6	5.6
% of World	57.8	62.9	57.7	61.5	61.9	62.6	61.0	61.5	61.6	61.5	61.5	61.5	62.0	62.0
World - \$M	157966.7	106440.0	28360.8	30890.5	32064.8	31042.1	122358.2	31959.5	33401.1	35026.3	35688.7	136075.6	148115.6	156256.4
3/3 % \$	27.4	-32.6	3.8	8.9	3.8	-3.2	15.0	3.0	4.5	4.9	1.9	11.2	8.8	5.5
M1 - MOS DRAM	99308.4	62474.7	14666.6	16554.9	16753.7	16479.4	64454.6	16623.9	17394.0	18195.3	18474.8	70688.0	76492.2	79310.6
3/3 % \$	36.4	-37.1	-2.1	12.9	1.2	-1.6	3.2	0.9	4.6	4.6	1.5	9.7	8.2	3.7
M2 - TOTAL MOS SR	405.5	303.6	66.0	69.1	69.1	67.4	271.6	64.8	65.2	65.3	64.0	259.2	249.5	240.6
3/3 % \$	1.5	-25.1	-5.6	4.7	0.0	-2.6	-10.5	-3.9	0.7	0.1	-1.9	-4.6	-3.7	-3.6
M6 - Other Memory	1301.2	1098.1	222.2	233.5	240.1	229.3	925.1	198.6	215.5	219.1	212.1	845.3	779.3	717.8
3/3 % \$	6.5	-15.6	-16.5	5.1	2.8	-4.5	-15.8	-13.4	8.5	1.7	-3.2	-8.6	-7.8	-7.9
M7A - NOR Flash	2169.4	1760.5	421.5	436.2	443.7	438.6	1740.0	418.6	427.9	436.0	422.3	1704.8	1706.6	1695.2
3/3 % \$	11.3	-18.9	-3.2	3.5	1.7	-1.1	-1.2	-4.6	2.2	1.9	-3.1	-2.0	0.1	-0.7
M7B - NANDFlash	54227.0	40180.0	12820.0	13414.5	14372.7	13667.6	54274.9	14491.7	15142.5	15930.0	16356.6	61920.8	68258.7	73696.9
3/3 % \$	14.8	-25.9	12.5	4.6	7.1	-4.9	35.1	6.0	4.5	5.2	2.7	14.1	10.2	8.0
M8 - ROM & EPROM	555.2	623.0	164.6	182.2	185.4	159.8	692.0	161.9	156.2	180.6	158.8	657.4	629.2	595.4
3/3 % \$	48.6	12.2	1.4	10.7	1.7	-13.8	11.1	1.3	-3.5	15.6	-12.0	-5.0	-4.3	-5.4
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M1 - MOS DRAM

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M1 - MOS DRAM

[illegible]

TOTAL MOS SRAM

2020	
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2021	2022	2023
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[illegible]

M7B - NANDFlash

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M7B - NANDFlash

[illegible]

M8 - ROM & EPROM

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M8 - ROM & EPROM

[illegible]

Other Memory

2020

021	2022	2023
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[illegible]

IC Total
Code S2

	2020	2021				2021
Q4	Total	Q1	Q2	Q3	Q4	Total

2022 Total	2023 Total
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T99 - Tot Semicon

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T99 - Tot Semicon

[illegible]

P2 - MOS MCU

WSTS Semiconductor Forecast

P2 - MOS MCU

[illegible]