



**WORLD  
SEMICONDUCTOR  
TRADE STATISTICS**

# **SEMICONDUCTOR INDUSTRY BLUE BOOK 2015**

**NET BILLINGS  
BY PRODUCTS & REGION**

**Administered by  
WSTS, Inc.**

**Compiled by  
Moss Adams LLP in Campbell  
topserve.ch GmbH in Winterthur and  
Grant Thornton Taiyo in Tokyo**



## PROGRAM OVERVIEW

The statistics presented in this report have been compiled on the basis of confidential data submitted by companies participating in the survey; estimates provided by WSTS, Inc. are included for nonparticipating companies worldwide.

To adjust for non-receipt of any participant's data, Moss Adams LLP, topserve.ch GmbH and Grant Thornton Taiyo (GTT) will use that company's previously reported market share to compute its input data for the current month. The report reflects worldwide statistics for all non-captive semiconductor manufacturers worldwide.

Reported data include all monthly net billings (shipments) between semiconductor manufacturers and their end customers, authorized distributors and divisions or subsidiaries that manufacture end products.

All billings are reported according to customer shipment location. Actual sales prices (or comparable market prices for internal transfers) are used to value all billings.

Semiconductor companies participating in the survey should refer to the previously issued World Semiconductor Trade Statistics Participant Manual and the WSTS Product Classification for a more detailed description of the program, including detailed definitions of product categories. All participant inquiries with respect to the program, including the name of companies participating in the survey and the public sources used in compiling estimates, should be directed to the WSTS Administrator. All public inquiries concerning WSTS should be addressed to SIA in the Americas, Taiwan and China, to ESIA in Europe, to WSTS Japan Council in Japan and to KSIA in Asia Pacific (except for Taiwan and China).

Moss Adams LLP compiled the accompanying statistics from data submitted by participating companies, GTT in Tokyo, topserve.ch GmbH in Winterthur, and WSTS, Inc. in accordance with procedures described in the aforementioned participant manual. Because their work was limited to tabulating information furnished without audit, they can assume no responsibility for the accuracy of the underlying amounts.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
A99 - DIODES Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
A5 - SMALL SIGNAL DIODES WW Dollars WW Units WW ASP																	
A2 - ZENER DIODES WW Dollars WW Units WW ASP																	
A3 - TRANSIENT PROTECTION DEVICE WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b>																	
A3a - AVALANCHE BREAKDOWN DIODES WW Dollars WW Units WW ASP																	
A3b - THYRISTOR SURGE SUPPRESSOR WW Dollars WW Units WW ASP																	
A4 - RF & MICROWAVE DIODES WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
B99 - SMALL SIGNAL TRANSISTORS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
B4 - BIPOLAR SMALL SIGNAL TRANSISTORS																	
WW Dollars																	
WW Units																	
WW ASP																	
B2 - FIELD EFFECT TRANSISTORS																	
WW Dollars																	
WW Units																	
WW ASP																	
B3 - RF & MICROWAVE SMALL SIG TRANS																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
C99 - POWER TRANSISTORS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
CA - BIPOLAR & OTHER PWR TRANS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
C1 - RF & MICROWAVE POWER TRANS WW Dollars WW Units WW ASP																	
C11 - RF & MW PWR TRANS MODULE WW Dollars WW Units WW ASP																	
C5 - BIPOLAR GENERAL PUR POWER TRANS WW Dollars WW Units WW ASP																	
C6 - BIPOLAR GENERAL PURPOSE PTR MODULE WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
CB - INSULATED GATE BIPOLAR TRANS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
C9 - INSULATED GATE BIPOLAR TRANS (IGBT) Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
C10 - INSUL GATE BIPOLAR TRANS MODULES Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
CC - MOSFET POWER TRANSISTORS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
C7 - FIELD EFFECT GEN PURPOSE TRANS WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b>																	
C7c - FIELD EFFECT GEN PURP TRANS <= 40V WW Dollars WW Units WW ASP																	
C7d - FIELD EFFECT GEN PURP TRANS <= 100V WW Dollars WW Units WW ASP																	
C7e - FIELD EFFECT GEN PURP TRANS <= 200V WW Dollars WW Units WW ASP																	
C7f - FIELD EFFECT GEN PURP TRANS <= 400V WW Dollars WW Units WW ASP																	
C7g - FIELD EFFECT GEN PURP TRANS > 400V WW Dollars WW Units WW ASP																	
C8 - FIELD EFFECT GEN PURP PTR MODULES WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
D99 - RECTIFIERS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <u>World-Wide Detail by Subproduct Classification</u>																	
D1 - RECTIFIERS, 0.5 - 3.0 AMPS WW Dollars WW Units WW ASP D2 - RECTIFIERS, 3.1 - 35 AMPS WW Dollars WW Units WW ASP D3 - RECTIFIERS, ABOVE 35 AMPS WW Dollars WW Units WW ASP																	
E99 - THYRISTORS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <u>World-Wide Detail by Subproduct Classification</u>																	
E1 - THYRISTORS, 0 - 55 AMPS WW Dollars WW Units WW ASP E2 - THYRISTORS, ABOVE 55 AMPS WW Dollars WW Units WW ASP																	



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
G99 - ALL OTHER DISCRETE																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
S3 - TOTAL DISCRETES																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
Americas Units																	
Europe Units																	
Japan Units																	
China Units																	
Asia Pacific/All Other Units																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
<b>F99 - TOTAL OPTOELECTRONICS</b>																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
Americas Units																	
Europe Units																	
Japan Units																	
China Units																	
Asia Pacific/All Other Units																	
<b>F1 - DISPLAYS</b>																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>F2 - LAMPS</b>																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>F3 - COUPLERS/ISOLATORS &amp; SWITCHES</b>																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
<b>F3a - OPTO COUPLERS &amp; ISOLATORS</b>																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>F3b - OPTICAL SWITCHES (TRNSMSV/REFLTV)</b>																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
F5 - IMAGE SENSORS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> F5a - CCD & OTHER IMAGE SENSORS WW Dollars WW Units WW ASP F5b - CMOS IMAGE SENSORS WW Dollars WW Units WW ASP																	
F6 - OTHER OPTOELECTRONICS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
F7 - INFRARED Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
F8 - LASER PICKUP Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
F9 - LASER TRANSMITTER Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
H99 - SENSORS & ACTUATORS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
Americas Units																	
Europe Units																	
Japan Units																	
China Units																	
Asia Pacific/All Other Units																	
<b>World-Wide Detail by Subproduct Classification</b>																	
H1 - TEMPERATURE & OTHER SENSORS																	
WW Dollars																	
WW Units																	
WW ASP																	
H2 - PRESSURE SENSORS																	
WW Dollars																	
WW Units																	
WW ASP																	
H3 - ACCELERATION & YAW RATE SENSORS																	
WW Dollars																	
WW Units																	
WW ASP																	
H4 - MAGNETIC FIELD SENSORS																	
WW Dollars																	
WW Units																	
WW ASP																	
H6 - TOTAL ACTUATORS																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
J99 - TOTAL ANALOG Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
J0 - GENERAL PURPOSE ANALOG Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
J9 - AMPLIFIERS/COMPARATORS (SIGNAL CONDITIONING) Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
J4 - INTERFACE Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> J4a - INTERFACE LOGIC & AMPLIF WW Dollars WW Units WW ASP J4b - INTERFACE CONDITIONING & PROTECTION WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
J6 - POWER MANAGEMENT																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
J6a - LINEAR REGULATORS																	
WW Dollars																	
WW Units																	
WW ASP																	
J6b - SWITCHING REGULATORS																	
WW Dollars																	
WW Units																	
WW ASP																	
J6d - VOLTAGE REFERENCES																	
WW Dollars																	
WW Units																	
WW ASP																	
J6f - SUPERVIS, SEQUENCING & CONTROL																	
WW Dollars																	
WW Units																	
WW ASP																	
J6g - BATTERY CHARGING & MANAGEMENT																	
WW Dollars																	
WW Units																	
WW ASP																	
J6e - OTHER POWER MANAGEMENT																	
WW Dollars																	
WW Units																	
WW ASP																	
J7 - SIGNAL CONVERSION																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
JA - APPLICATION SPECIFIC ANALOG Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
JB - CONSUMER Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <u>World-Wide Detail by Subproduct Classification</u> JBa - AUDIO/VIDEO WW Dollars WW Units WW ASP JBc - DSC/CAMCORDER WW Dollars WW Units WW ASP JBb - OTHER CONSUMER WW Dollars WW Units WW ASP																	
JC - COMPUTER Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <u>World-Wide Detail by Subproduct Classification</u> JCc - COMPUTER SYSTEMS WW Dollars WW Units WW ASP JCd - STORAGE DEVICES WW Dollars WW Units WW ASP JCe - COMPUTER PERIPHERALS WW Dollars WW Units WW ASP J Cf - OTHER COMPUTING WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
JD - COMMUNICATIONS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> JDa - CELLULAR PHONES WW Dollars WW Units WW ASP JDb - WIRELESS INFRASTRUCTR WW Dollars WW Units WW ASP JDc - WIRELESS COMM, SHORT RANGE WW Dollars WW Units WW ASP JDd - OTHER WIRELESS COMMUNICATION WW Dollars WW Units WW ASP JDe - WIRED COMM / INFRASTRUCTURE & OTHER COMM WW Dollars WW Units WW ASP																	
JE - AUTOMOTIVE Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> JEa - INFOTAINMENT (INFO & ENTERTNMT) WW Dollars WW Units WW ASP JEb - OTHER AUTOMOTIVE WW Dollars WW Units WW ASP																	



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
JF - INDUSTRIAL & OTHERS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
JFd - RFID TRANSPONDERS																	
WW Dollars																	
WW Units																	
WW ASP																	
JFe - MEDICAL/HEALTHCARE																	
WW Dollars																	
WW Units																	
WW ASP																	
JFa - ALL OTHER INDUSTRIAL																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P99 - TOTAL MOS MICRO																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
P1 - MOS MPU																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
P1c - 8 BIT & 16 BIT																	
WW Dollars																	
WW Units																	
WW ASP																	
P1f - 32-BIT OR GREATER																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P2 - MOS MCU Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
P5 - GENERAL MCU (See *Note) Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> P5a - 4-BIT GENERAL MCU WW Dollars WW Units WW ASP P5b - 8-BIT GENERAL MCU WW Dollars WW Units WW ASP P5c - 16-BIT GENERAL MCU WW Dollars WW Units WW ASP P5e - 32-BIT OR GREATER MCU WW Dollars WW Units WW ASP																	
<b>For Info Only - World-Wide Detail by Application (P5m - P5z)</b> P5m - CONSUMER WW Dollars WW Units WW ASP																	
P5n - COMPUTER & PERIPHERALS * WW Dollars WW Units WW ASP <b>For Info Only - World-Wide Detail by Subproduct Application</b> P5j - COMPUTER SYSTEMS WW Dollars WW Units WW ASP P5k - STORAGE WW Dollars WW Units WW ASP P5l - OTHER PERIPHERALS WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P5o - WIRELESS COMM, CELLULAR PHONE * WW Dollars WW Units WW ASP																	
P5p - WIRELESS COMM, INFRASTRUCTURE * WW Dollars WW Units WW ASP																	
P5q - WIRELESS COMM, SHORT RANGE* WW Dollars WW Units WW ASP																	
P5r - WIRELESS COMM, ALL OTHER * WW Dollars WW Units WW ASP																	
P5s - WIRED COMMUNICATION * WW Dollars WW Units WW ASP																	
P5t - AUTOMOTIVE * WW Dollars WW Units WW ASP																	
<b>For Info Only - World-Wide Detail by Subproduct Application</b>																	
P5x - INFOTAINMENT (INFORMATION & ENTERTAINMENT) WW Dollars WW Units WW ASP																	
P5y - OTHER AUTOMOTIVE WW Dollars WW Units WW ASP																	
P5z - MULTIPURPOSE & OTHER * WW Dollars WW Units WW ASP																	
*Note: The sum of P5m to P5z must also equal P5.																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P6 - SMART CARD MCU (See **Note)																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
P6a - 4-BIT SMART CARD MCU																	
WW Dollars																	
WW Units																	
WW ASP																	
P6b - 8-BIT SMART CARD MCU																	
WW Dollars																	
WW Units																	
WW ASP																	
P6c - 16-BIT SMART CARD MCU																	
WW Dollars																	
WW Units																	
WW ASP																	
P6e - 32-BIT OR GREATER SMART CARD MCU																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>For Info Only - World-Wide Detail by Application (P6m - P6z)</b>																	
P6m - CONSUMER **																	
WW Dollars																	
WW Units																	
WW ASP																	
P6n - COMPUTER & PERIPHERALS **																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P6o - WIRELESS COMM, CELLULAR PHONE ** WW Dollars WW Units WW ASP																	
P6q - WIRELESS COMM, SHORT RANGE ** WW Dollars WW Units WW ASP																	
P6r - WIRELESS COMM, ALL OTHER ** WW Dollars WW Units WW ASP																	
P6z - INDUSTRIAL & OTHER ** WW Dollars WW Units WW ASP																	
P6v - CONTACTLESS (RF) TYPE ** WW Dollars WW Units WW ASP P6w - DUAL TYPE ** WW Dollars WW Units WW ASP P6u - ALL OTHER TYPE ** WW Dollars WW Units WW ASP																	

\*\*Note: The sum of P6m to P6z, and the sum of P6u, P6v and P6w must also equal P6, respectively.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P4 - MOS DIGITAL SIGNAL PROCESSORS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
P4a - CONSUMER WW Dollars WW Units WW ASP																	
P4b - COMPUTER & PERIPHERALS WW Dollars WW Units WW ASP																	
<b><u>World-Wide Detail by Subproduct Classification</u></b>																	
P4j - COMPUTER SYSTEMS WW Dollars WW Units WW ASP																	
P4k - STORAGE WW Dollars WW Units WW ASP																	
P4l - OTHER PERIPHERALS WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
P4c - WIRELESS COMM, CELLULAR PHONE WW Dollars WW Units WW ASP																	
P4d - WIRELESS COMM, INFRASTRUCTR WW Dollars WW Units WW ASP																	
P4f - WIRELESS COMM, ALL OTHER WW Dollars WW Units WW ASP																	
P4g - WIRED COMMUNICATION WW Dollars WW Units WW ASP																	
P4h - AUTOMOTIVE WW Dollars WW Units WW ASP																	
P4i - MULTIPURPOSE & OTHER WW Dollars WW Units WW ASP																	



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
L99 - TOTAL LOGIC Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
LS - LOGIC, STANDARD Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
L1 - DIGITAL BIPOLAR Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
L2a - MOS GENERAL PURPOSE LOGIC Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
L2b - MOS GATE ARRAYS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
L2c - MOS STANDARD CELLS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
L2e - CONSUMER																	
WW Dollars																	
WW Units																	
WW ASP																	
L2f - COMPUTER & PERIPHERALS																	
WW Dollars																	
WW Units																	
WW ASP																	
L2g - WIRELESS COMMUNICATION																	
WW Dollars																	
WW Units																	
WW ASP																	
L2h - WIRED COMMUNICATION																	
WW Dollars																	
WW Units																	
WW ASP																	
L2i - AUTOMOTIVE																	
WW Dollars																	
WW Units																	
WW ASP																	
L2j - MULTIPURP & OTHER/UNKNOWN																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
L3 - MOS DISPLAY DRIVERS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
L3a - DRIVER FOR LARGE SIZED LCD																	
WW Dollars																	
WW Units																	
WW ASP																	
L3b - DRIVER FOR MOBILE PHONE DISPLAY																	
WW Dollars																	
WW Units																	
WW ASP																	
L3c - OTHER DISPLAY DRIVERS																	
WW Dollars																	
WW Units																	
WW ASP																	
L4 - MOS TOUCH SCREEN CONTROLLERS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
LA - MOS SPECIAL PURPOSE LOGIC Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
L5 - CONSUMER Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <u>World-Wide Detail by Subproduct Classification</u> L5a - AUDIO/VIDEO WW Dollars WW Units WW ASP L5c - DSC/CAMCORDER WW Dollars WW Units WW ASP L5b - OTHER CONSUMER WW Dollars WW Units WW ASP																	
L6 - COMPUTER & PERIPHERALS Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <u>World-Wide Detail by Subproduct Classification</u> L6g - COMPUTER SYSTEMS WW Dollars WW Units WW ASP L6h - STORAGE WW Dollars WW Units WW ASP L6i - OTHER PERIPHERALS WW Dollars WW Units WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
L7 - COMMUNICATION																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
L7a - WIRELESS COMM, CELLULAR PHONE																	
WW Dollars																	
WW Units																	
WW ASP																	
L7b - WIRELESS COMM, INFRASTRUCTR																	
WW Dollars																	
WW Units																	
WW ASP																	
L7c - WIRELESS COMM, SHORT RANGE																	
WW Dollars																	
WW Units																	
WW ASP																	
L7d - WIRELESS COMM, ALL OTHER																	
WW Dollars																	
WW Units																	
WW ASP																	
L7f - WIRELESS COMM, APPLICATION PROCESSOR																	
WW Dollars																	
WW Units																	
WW ASP																	
L7e - WIRED COMMUNICATION																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
L8 - AUTOMOTIVE																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
L8a - INFOTAINMENT (INFO & ENTERTNMT)																	
WW Dollars																	
WW Units																	
WW ASP																	
L8b - OTHER AUTOMOTIVE																	
WW Dollars																	
WW Units																	
WW ASP																	
L9 - MULTIPURPOSE & OTHER																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
M99 - TOTAL MOS MEMORY																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
M1 - TOTAL MOS DRAM																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
M1g - 64 MEGABIT & LESS																	
WW Units																	
M1h - 128 MEGABIT & LESS (>64Mb)																	
WW Units																	
M1j - 256 MEGABIT & LESS(>128Mb)																	
WW Units																	
M1k - 512 MEGABIT & LESS(>256Mb)																	
WW Units																	
M1m - 1 GIGABIT & LESS(>512Mb)																	
WW Units																	
M1n - 2 GIGABIT & LESS (>1Gb)																	
WW Units																	
M1o - GREATER THAN 2 GIGABIT																	
WW Units																	
M1x - DRAM TOTAL EQUIV. UNITS (1 Gigabit Equiv)																	
WW Units																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
M2 - TOTAL MOS SRAM Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	
M2B - MOS SRAM Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> M2f - 2 MEGABIT & LESS (>1Mb) 30ns & > WW Units M2m - 4 MEGABIT & LESS (>2Mb) 30ns & > WW Units M2o - GREATER THAN 4 MEGABIT 30ns & > WW Units M2k - 2 MEGABIT & LESS < than 30ns WW Units M2n - 4 MEGABIT & LESS (>2Mb) < than 30ns WW Units M2p - GREATER THAN 4 MEGABIT < than 30ns WW Units																	
M2A - MOS PSEUDO-SRAM Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP <b>World-Wide Detail by Subproduct Classification</b> M2r - 16 MEGABIT & LESS Pseudo SRAM WW Units M2s - 32 MEGABIT & LESS (>16Mb) Pseudo SRAM WW Units M2t - GREATER THAN 32 MEGABIT Pseudo SRAM WW Units																	
M8 - MOS MASK PROM & EPROM Americas Europe Japan China Asia Pacific/All Other WW Dollars WW Units WW ASP																	



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
<b>M7 - TOTAL FLASH MEMORY</b>																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>M7A - TOTAL NOR FLASH MEMORY</b>																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b><u>World-Wide Detail by Subproduct Classification</u></b>																	
M7a - 2 MEGABIT & LESS -NOR																	
WW Units																	
M7b - 4 MEGABIT & LESS (>2Mb) NOR																	
WW Units																	
M7c - 8 MEGABIT & LESS (>4Mb) NOR																	
WW Units																	
M7d - 16 MEGABIT & LESS (>8Mb) NOR																	
WW Units																	
M7e - 32 MEGABIT & LESS (>16Mb) NOR																	
WW Units																	
M7f - 64 MEGABIT & LESS (>32Mb) NOR																	
WW Units																	
M7g - 128 MEGABIT & LESS (>64Mb) NOR																	
WW Units																	
M7h - GREATER THAN 128 MEGABIT NOR																	
WW Units																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
M7B - TOTAL NAND FLASH MEMORY																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
M7k - 512 MB & LESS -NAND																	
WW Units																	
M7l - 1 GIGABIT & LESS (>512Mb) NAND																	
WW Units																	
M7m - 2 GIGABIT & LESS (>1Gb) NAND																	
WW Units																	
M7n - 4 GIGABIT & LESS (>2Gb) NAND																	
WW Units																	
M7o - 8 GIGABIT & LESS (>4Gb) NAND																	
WW Units																	
M7p - 16 GIGABIT & LESS (>8Gb) NAND																	
WW Units																	
M7q - 32 GIGABIT & LESS (>16Gb) NAND																	
WW Units																	
M7r - 64 GIGABIT & LESS(>32 Gb) NAND																	
WW Units																	
M7s - GREATER THAN 64 GIGABIT -NAND																	
WW Units																	
M7x - NAND TOTAL EQUIV. UNITS (2 Gigabit Equiv)																	
WW Units																	
M7y - NAND TOTAL EQUIV. UNITS (16 Gigabit Equiv)																	
WW Units																	
M7z - NAND TOTAL EQUIV. UNITS (1 Gigabyte Equiv)																	
WW Units																	
M6 - TOTAL OTHER MEMORY																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
M6a - ALL OTHER MEMORIES																	
WW Dollars																	
WW Units																	
WW ASP																	
M6b - ALL OTHER MEMORY IC CARD																	
WW Dollars																	
WW Units																	
WW ASP																	
M6c - CONTACTLESS (RF) MEM IC CARD																	
WW Dollars																	
WW Units																	
WW ASP																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
S2 - TOTAL MONOL INTEG CIRCUITS																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
Americas Units																	
Europe Units																	
Japan Units																	
China Units																	
Asia Pacific/All Other Units																	
Q99 - TOTAL APPL SPEC IC																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
<b>World-Wide Detail by Subproduct Classification</b>																	
Q1 - CONSUMER (JB, P5m, P6m, P4a, L2e, L5)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q2 - COMPUTER & PERIPHALS (JC, P5n, P6n, P4b, L2f, L6)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q3a - WIRELESS COMMUNICATION (See ***Note)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q3b - WIRED COMMUNICATION (JDe, P5s, P4g, L2h, L7e)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q4a - AUTOMOTIVE INFOTAINMENT (JEa, P5x, L8a)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q4b - OTHER AUTOMOTIVE (JEb, P5y, P4h, L2i, L8b)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q5 - IC CARD (P6v, P6w, P6u)																	
WW Dollars																	
WW Units																	
WW ASP																	
Q6 - MULTIPURPOSE & OTHER (JF, P5z, P6z, P4i, L2j, L9)																	
WW Dollars																	
WW Units																	
WW ASP																	
***Note: Category Q3a includes: JDa, JDb, Jdc, JDd, P5o, P5p, P5q, P5r, P6o, P6q, P6r, P4c, P4d, P4f, L2g, L7a, L7b, L7c, L7d and L7f.																	
****Note: The total of category Q99 excludes Q5.																	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date	Q1	Q2	Q3	Q4
T99 - TOTAL SEMICONDUCTOR																	
Americas																	
Europe																	
Japan																	
China																	
Asia Pacific/All Other																	
WW Dollars																	
WW Units																	
WW ASP																	
Americas Units																	
Europe Units																	
Japan Units																	
China Units																	
Asia Pacific/All Other Units																	

**Yen Exchange Rates**

Month \*\*\*\*

YTD \*\*\*\*

\*\*\*\* Based on the average monthly/yearly exchange rates (yen/dollar) obtained from www.OANDA.com in calculating Japanese shipments.

**Euro Exchange Rates**

Month \*\*\*\*\*

YTD \*\*\*\*\*

\*\*\*\*\* Based on the average monthly/yearly exchange rates (euro/dollar) obtained from www.OANDA.com in calculating European shipments.

Worldwide Sales (3 Month Totals) 000's Omitted

1st QTR    2nd QTR    3rd QTR    4th QTR

- A99 - DIODES
- B99 - SMALL SIGNAL TRANSISTORS
- C99 - POWER TRANSISTORS
- D99 - RECTIFIERS
- E99 - THYRISTORS
- G99 - ALL OTHER DISCRETE
- F99 - TOTAL OPTOELECTRONICS
- H99 - SENSORS & ACTUATORS
- S3 - TOTAL DISCRETES**
- J99 - TOTAL ANALOG
- P99 - TOTAL MOS MICRO
- L99 - TOTAL LOGIC
- M99 - TOTAL MOS MEMORY
- S2 - TOTAL MONOL INTEG CIRCUITS**
- T99 - TOTAL SEMICONDUCTOR**

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