

Switching Power Supplies



May 2008

US\$495

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SWITCHING POWER SUPPLIES

Supplier capability in China

EXECUTIVE SUMMARY

Makers in China account for about 70 percent of global shipments of switching power supplies. The industry is expected to maintain its aggressive export growth, which according to China customs statistics was 26.3 percent on an annualized basis from 2000 to 2007. By 2010, China's overseas shipments of switching power supplies will exceed 300 million units.

Although China suppliers foresee a rosy outlook for the product line, they will continue to face a number of challenges including the appreciation of the yuan against the US dollar, increase in labor and raw material costs as well as domestic inflation.

As a result, export quotes of switching power supplies are likely to increase in 2008. However, many makers will limit price increases to a minimum due to fierce competition in the product line.

Makers are also adopting different strategies to maintain their profit margins. For instance, some suppliers are using euro, pound and other relatively stable currencies for transactions in non-US markets. Others are offering export prices with shorter validity period. Most makers have also established long-term relationships with their raw material and component suppliers to ensure favorable prices.

The following are some of the key trends in China's switching power supply industry:

- Export quotes of switching power supplies will increase by 5 to 10 percent in the coming months, depending on the size of the order.
- The majority of China suppliers expect sales growth of more than 20 percent in 2008, driven primarily by demand from communication, home appliances, IT and consumer electronics sectors.
- Many makers will increase exports to EU markets. This is mainly because the region imposes strict policies

and standards on product safety, energy efficiency and environmental protection, which enable makers to command higher prices.

- Most suppliers will direct product development efforts toward enhancing power efficiency, as this is one of the key differentiators in the line. Makers will also focus on wider output range and better anti-EMI performance.

- Output of intelligent switching power supply modules is expected to increase, due to the popularity of power building blocks and distributed power supply in PC, networking and communication sectors.

Products covered in this report include switching power supplies, AC/DC adapters and DC/DC converters. Switching power supplies account for the bulk of the output and exports from China.

Switching power supplies come in brick, half-brick and open-frame types, and are mostly used for computer, communication, transportation, home appliances and industrial applications. AC/DC adapters come in power plug form, and are mainly adopted in laptops, mobile phones and electronic devices. Available DC/DC converters from China have power ratings from 50W to 400W.

The Industry Overview section in this report elaborates on major issues and challenges facing China makers. It also discusses the industry composition, highlighting key characteristics of different types of suppliers. The section also details product development plans of manufacturers.

The Products & Prices section highlights the specifications of the different types of switching power supplies from China. Key components, material sourcing and price ranges for switching power supplies are also discussed.

In this report

- 27 in-depth company profiles
- 20 short company profiles
- 162 top-selling export products
- Supplier demographics
- Supplier survey
- Industry statistics & charts

METHODOLOGY

To produce this report, Global Sources surveyed a wide range of suppliers. Rather than focus simply on high-profile makers, we compiled a representative sample of large, midsize and emerging manufacturers. All profiled companies are export-oriented professional suppliers that may or may not be clients of Global Sources.

The selection of suppliers is designed to reflect the composition of the industry in China in terms of geographic spread, business type and company ownership.

For each company profile, our research teams interviewed senior executives and export managers who discussed their recent performance and provided price, R&D, production and export forecasts for the next 12 months. The interviews were done in-person, by phone or email.

In each case, companies were required to answer specific questions designed to verify their manufacturing and export credentials, including their production and export statistics, and a breakdown of exports by product type and market. Our production checklist details the product-specific manufacturing capabilities of each supplier.

All suppliers participated in a survey designed to provide insight into product and price trends, and challenges facing the industry in the next 12 months. All survey questions are single choice. Results were calculated based on the actual number of valid responses to each question.

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INDUSTRY OVERVIEW

Although the global economy is expected to enter a period of stagflation, weighed down by the subprime mortgage crisis in the US and rising commodity prices, China's switching power supply industry will maintain its aggressive export, which according to data from China customs was 26.3 percent on an annualized basis from 2000 to 2007.

Much of the growth can be attributed to the booming global demand for switching power supplies, driven primarily by communication, home appliance, IT and consumer electronics sectors. At this rate, total exports of switching power supplies from China will top 300 million units in 2010. According to consulting firm Frost & Sullivan, the global market for switching power supplies will be worth \$16 billion in 2009.

Currently, China suppliers account for about 70 percent of the global supply of switching power supplies, with the EU as their key export market. This region is particularly attractive to China suppliers that have little inclination to engage in price wars with their competitors. This is because the EU imposes strict policies and standards on product safety, energy efficiency and environmental protection, making it difficult for suppliers to sustain a viable business by exporting compliant products while undercutting the competition in terms of price. On the other hand, China makers with the capability to penetrate this market are able to charge more for their products and maintain healthier profit margins.

In general, China suppliers remain optimistic about the growth in demand for switching power supplies from communication, home appliance, IT and consumer electronics sectors even though some makers believe that demand from these sectors has reached a plateau.

The growth rate of switching power supplies for industrial applications is

slower than the other sectors, averaging 10 to 15 percent in the past few years. However, since the gross profit margin of industrial-based products is about 30 to 40 percent (higher than the 10 percent garnered by consumer-based products), the industrial sector is attracting an influx of new suppliers. Small-type, open-frame and DIN rail switching power supplies are expected to bring about rapid growth in this sector in the coming years. Most of these products are suited for industrial applications such as automatic control, backlight power, electric tools and financial, medical and military equipment.

Challenges abound

The outlook of the global switching power supply industry may be rosy, but China suppliers face a number of challenges going forward. The twin forces of fluctuating exchange rates and domestic inflation, for instance, are putting a severe dent on suppliers' profitability.

Some makers claim they have lost millions of yuan in 2007, as the yuan

Supplier summary

Suppliers surveyed	47
Export sales	\$498.4mn
Export ratio	71%
OEM business	35%
Capacity utilized	68%
Annual R&D spending	\$40.5mn
Full-time employees	44,597

Data: All surveyed suppliers

appreciated by 12.3 percent against the US dollar. Since the beginning of 2008, the pace of the currency appreciation has surpassed 4 percent. Full-year appreciation of the yuan against the US dollar is likely to be in the range of 8 to 10 percent, suggesting that the prospect remains daunting for China suppliers.

As a counter measure, China makers are adjusting their pricing strategies. For US dollar-denominated transactions, China suppliers are offering export quotes with a shorter validity period, from one year or six months previously down to two months or one month now. Some China suppliers are even using the anticipated exchange rate instead of the current

OEM/ODM/OBM partners

Company	Major customers
Anthin	Kaga, SII (Japan)
Click	NEC (Japan); Tyco, Emerson, Flextronics, HP, Dell (US)
Donghua Electric Stock	Koctas (Turkey)
Eaglerise	Philips (the Netherlands); Ikea (Sweden); GE (US)
ECU	Copper, Radius Power (US)
Gmega	Philips (the Netherlands)
Guangdong HSK	Ten Pal International Ltd (China)
Guangzhou Leadway	Delux, Lenovo (China); Techcom (India); Mercury (Singapore); Omega (Taiwan)
H.K All-key	BEL (Israel)
Huntkey	Best Buy (US)
Jiangsu Chenyang	Nissei (Japan); O2 (UK)
Shenzhen Tenwei	Nintendo, Sharp (Japan)
Weihai Dongxing	Siemens (Germany); Samsung (South Korea); Cefco (UK)

Data: All surveyed suppliers

Airline Mechanical Co. Ltd

Profile		Capability	
Company facts		Production checklist	
Year established	1966	R&D/design staff	30
Head office location	Hong Kong	QC staff	160
Factory location(s)	Shenzhen (Guangdong)	Mold making in-house	Yes
Total factory area	50,000sqm	Plastic injection in-house	Yes
No. of full-time employees	2,500	SMT in-house	Yes
Annual sales (all products)	\$57.00mn	PCB sub-assembly in-house	Yes
Annual R&D spending	\$0.50mn	Final assembly in-house	Yes
ISO certification	Yes		
Company ownership	Hong Kong-owned/invested		
Sales & output: Switching power supplies		Exports by product	
Annual sales	\$32.00mn	Switching power supplies	50%
Share of total sales	56%	AC/DC adapters	30%
Annual export sales	\$32.00mn	DC/DC converters	20%
Total monthly capacity	2,860,000 units		
Average monthly output	2,000,000 units	Exports by market	
Capacity utilized	70%	North America	26%
Average monthly exports	2,000,000 units	European Union	24%
Export ratio	100%	Europe (non-EU)	9%
OEM % of exports	30%	Asia/Pacific	35%
ODM % of exports	60%	Middle East	3%
OBM % of exports	10%	Other	3%

Outlook
<ul style="list-style-type: none"> ● Export prices Increase ● Export price increase/decrease 5%-10% ● Export sales Increase 10%-20% ● Target market North America ● Production capacity Increase less than 20% ● Major challenge Yuan-USD exchange rate ● Export capability Widen product range ● Major product trend Power efficiency

Popular export models	
	<p>Switching power supply</p> <p>Model DS400P Minimum order 8,000 units Packaging type Box Delivery time 45 days Indicated price \$16.00</p> <p>Description: 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 5V/15V/27.5V output voltage; 125% OVP; 5V withstand voltage; 400W (max.) output power; 82% power efficiency; CE, UL, FCC, TUV, CSA, PSE approvals; 120x110x40mm dimension</p>
	<p>Switching power supply</p> <p>Model Alice 26in LCD Lips D7121 Minimum order 5,000 units Packaging type Box Delivery time 45 days Indicated price \$17.00</p> <p>Description: 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 5V/12V/24V output voltage; 135% OVP; 5V withstand voltage; 130W (max.) output power; 80% power efficiency; CE, UL, FCC, TÜV, CSA, PSE approvals</p>

Click Technology Ltd

Profile		Capability	
Company facts		Production checklist	
Year established	1995	R&D/design staff	33
Head office location	Hong Kong	QC staff	18
Factory location(s)	Shenzhen (Guangdong)	Mold making in-house	No
Total factory area	2,000sqm	Plastic injection in-house	No
No. of full-time employees	3,000	SMT in-house	No
Annual sales (all products)	\$70.00mn	PCB sub-assembly in-house	Yes
Annual R&D spending	\$1.00mn	Final assembly in-house	Yes
ISO certification	Yes	Exports by product	
Company ownership	Hong Kong-owned/invested	Switching power supplies	43%
Sales & output: Switching power supplies		AC/DC adapters	57%
Annual sales	\$30.00mn	DC/DC converters	—
Share of total sales	43%	Exports by market	
Annual export sales	\$24.00mn	North America	55%
Total monthly capacity	1,500,000 units	European Union	18%
Average monthly output	1,000,000 units	Europe (non-EU)	3%
Capacity utilized	67%	Asia/Pacific	21%
Average monthly exports	800,000 units	Middle East	—
Export ratio	80%	Other	3%
OEM % of exports	20%		
ODM % of exports	30%		
OBM % of exports	50%		
Major customers	NEC (Japan); Tyco, Emerson, Flextronics, HP, Dell (US)		

Outlook
<ul style="list-style-type: none"> ● Export prices Increase ● Export price increase/decrease 11%-15% ● Export sales Increase more than 20% ● Target market North America ● Production capacity Increase 20%-50% ● Major challenge Price competition ● Export capability Improve operating efficiency ● Major product trend Power efficiency

Popular export models




Switching power supply

Model: CHA00206/CH00312

Minimum order: 2,000 units

Packaging type: Carton

Delivery time: 30 days

Indicated price: •

Description: For 6.4V, 1.1Ah Li-on battery chargers; 5hr charging time for 1.1Ah battery; 100V/240V AC input voltage; 50Hz to 60Hz frequency; 80mA pre-charge current; 210mA main constant current

AC/DC adapters

Model: cps024xxxxyyy series

Minimum order: 5,000 units

Packaging type: Carton

Delivery time: 30 days

Indicated price: •

Description: 100V to 240V AC input voltage; 47Hz to 63Hz frequency; 5V to 24V DC output voltage; 150% OVP; 3kV AC withstand voltage; 24W (max.) output power; 0°C to 40°C operating temperature; 75% power efficiency

• Information not disclosed

PRODUCT GALLERY

AC/DC adapters



Airline Mechanical

(profile page 26)

Model: EVDF+15120-1200

Minimum order: 20,000 units

Packaging type: Box

Delivery time: 30 days

Indicated price: \$2.60

Description: 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 2V DC output voltage; 125% OVP; 15W output power; 85% power efficiency; CE, UL, FCC, PSE, CSA approvals; 7.5x4.5x3.5mm dimension



Anthin

(profile page 53)

Model: APW305UB-03-06

Minimum order: 5,000 units

Packaging type: White box

Delivery time: 30 days

Indicated price: \$2.85

Description: USB travel charger; 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 5V DC at 1A output voltage; 5W USB output power; 0°C to 40°C operating temperature; 80% power efficiency; UL, CUL, PSE, FCC, CE, CEC, RoHS approvals



Anthin

(profile page 53)

Model: APL305-0510

Minimum order: 5,000 units

Packaging type: White box

Delivery time: 35 days

Indicated price: \$4.20

Description: Interchangeable AC plugs; 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 5V DC at 1A output voltage; 5W USB output power; 0°C to 40°C operating temperature; 80% power efficiency; UL, CUL, PSE, FCC, CE, RoHS approvals



Anthin

(profile page 53)

Model: APW305-0510

Minimum order: 5,000 units

Packaging type: White box

Delivery time: 30 days

Indicated price: \$2.82

Description: USB charger; 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 5V DC, 1A output voltage; 5W USB output power; 0°C to 40°C operating temperature; 80% power efficiency; PSE, CEC, RoHS approvals; 56.5x50.5x15.8mm dimension



Anthin

(profile page 53)

Model: APL336-1230

Minimum order: 5,000 units

Packaging type: White box

Delivery time: 35 days

Indicated price: \$7.80

Description: AC/DC adapter with interchangeable AC plugs; 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 12V DC, 3A output voltage; 36W output power; 0°C to 40°C operating temperature; 80% power efficiency



Anthin

(profile page 53)

Model: APS305-0510

Minimum order: 5,000 units

Packaging type: White box

Delivery time: 20 days

Indicated price: \$2.45

Description: Wall mount AC/DC adapter; 100V to 240V AC input voltage; 50Hz to 60Hz frequency; 5V DC, 1A output voltage; 5W output power; 0°C to 40°C operating temperature; 70% power efficiency; UL, CUL, PSE, FCC, GS, BS, CE, SAA, RoHS approvals

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