• Comments in this presentation other than statements of historical fact may constitute forward looking statements and are based on Fairchild’s management’s estimates and projections and are subject to various risks and uncertainties

• These risks and uncertainties are described in the Company’s periodic reports and other filings with the Securities and Exchange Commission (see the Risk Factors section) and are available at http://sec.gov and investor.fairchildsemi.com

• Actual results may differ materially from those projected in the forward looking statements

• Some data in this presentation may include non-GAAP measures that we believe provide useful information about the operating performance of our businesses that should be considered by investors in conjunction with GAAP measures that we also provide. You can find a reconciliation of non-GAAP to comparable GAAP measures at the Investor Relations section of our web site at http://investor.fairchildsemi.com

Recent additions to our website at http://investor.fairchildsemi.com

Updated Financials (through current quarter with segment revenue/gross margin breakouts)

• Quarterly Fact Sheet with current quarter highlights

• This investor presentation
## Fairchild Today…

### Fairchild Semiconductor

### 2012 Revenue $1.4B

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Power Switches &amp; Interface</td>
<td>Power Conversion HV MOSFET &amp; IGBT SPM Automotive Opto</td>
<td>Standard discrete &amp; analog</td>
</tr>
<tr>
<td>Signal Conditioning LV MOSFETs Logic</td>
<td>Comprehensive offering of low voltage solutions (&lt;200V)</td>
<td>Comprehensive offering of high voltage solutions (&gt;200V)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Essential functions for key customers</td>
</tr>
</tbody>
</table>

*Comprehensive offering of low voltage solutions (<200V)*

*Comprehensive offering of high voltage solutions (>200V)*

Solutions for Your Success™
Markets That Drive Our Business

- Wireless Convergence and Energy Efficiency mega-trends
- Power silicon content grows faster than end market sales – premium paid for efficiency
- Segment structure increases our apps knowledge and ability to sell solutions
- Large customers dominate these markets and align well with Fairchild’s strengths in SCM, global presence and wide product breadth
Mobile, Computing, Consumer & Communications (MCCC) Group Overview
MCCC Business Overview

Sales - 2012

What Drives Our Business?

- Focus on leadership power efficiency in DC:DC applications
- Solutions with increasingly small form factors
- Portfolio of products to service OEM’s & ODM’s needs
Mobile Trends

• Smartphone user experience and energy efficiency driving IC growth

• OEM competition driving differentiation and IC opportunity

• Increasing OEM requirement for broad based IP suppliers

• Quality of supply critical differentiator

• Three of four of the world’s largest SC consumers are now handset OEMs

• Strong Market Growth with 28% SAM CAGR

*Q2 iSuppli Mobile Std Linear+logic+MOSFET 2010-2013 CAGR
Our Customers

Content in most of the Smart Phones at each OEM

Content in many handset reference designs
Focus Areas in Smart Phones

- **RF Transceiver**
  - RF Pwr Mgt
  - Wi-Fi
  - Blue Tooth
  - GPS

- **Baseband Processor**
- **Application Processor**
- **Camera**
- **Memory**
- **Display**
- **Switching**
- **Video Filter/driver**
- **Power Management IC’s**
- **USB Mux**
- **Charger**
- **USB Xcvr**
- **Digital Mic**
- **MOSFET**
- **Power Management IC’s**
- **MOSFETs**
- **Core Power**
- **LED Driver**
- **Audio CoDec**
- **Amplifiers**
- **Tiny Logic**

**Additional Components**

- Class A/B/D/G Amplifiers
- CODECs, Mic. ADC, Subsystems
- ASSP
- PLLs, Reset Timers, I2C
- Control Translators, Sensors
- Tiny Logic Gates, Buffers
- Micropak2 packaging
- WLED Drivers with DC/DC Lighting Management Units
- Low RDSOn, small Packaging
- Power for CPU Driven Subsystems, IO Power
- Power Management IC’s
- Battery
- Switching, Video Filtering/Drivers, uSerDes
- IntelliMAX Loadswitches
- USB Charging, Fuel Gauging
- Transceivers, OVP, Charging, Detection

**Solutions for Your Success™**
Mobile USB

Maximizing USB port functionality in mobile electronics

• Solutions for the full USB signal path
  • USB Switches
  • Multimedia Switches
  • Accessory Detection
  • Transceivers
• Enable USB port sharing for data, audio, video, and charging
• Reduce external components
• Power savings with low power modes
• Ultra-small packaging

USB Transceivers
Maximizes design flexibility and assures USB compliance.

USB Accessory Detection
Detect an accessory type for automatic application routing.

Solutions for Your Success™
Analog Switches

**MIPI / Camera:**
- Route & isolate MIPI interface to dual cameras or displays while maintaining signal integrity

**Audio Jack:**
- Detect and configure for 3 or 4 pole headset
- Route audio to either speakers or headphones
- Switch composite video or MIC to accessory plug

**Dual Microphone:**
- Switch & isolate between two microphones for noise cancellation

**Dual SIM:**
- Sharing one baseband port with two SIM cards

---

*Source: iSuppli 2010 Mobile Handset Feature Forecast 2010 - 2012*

Fairchild Semiconductor is a global leader in innovative Analog Switch solutions designed to route, switch, isolate, protect and detect an array of signals in mobile devices.

---

**Mobile Handset Feature Forecast 2010 - 2012**

- **Music Playback (Audio Jack)**
- **Camera (>3Meg) (MIPI/Camera)**
- **Dual SIM**
- **Dual Microphone**

*Source: iSuppli 2010*
Mobile ASSP Solutions

ASSPs Enable Smart Phone Applications

ASSP Solutions

- 33% 3yr CAGR*
- Fast growing, semi custom space
- Reset Timers Series; hardware reset for software lock up
- Temperature Sensors; provide thermal protection
- I/O Level Shifters for I2C, SD Memory and SIM cards
- Clock buffering and distribution
- Baseband / Application Processor I/O expansion
Mobile Audio

- Investment started in 2009 with purchase of Leadis Audio IP and Team
- Focused on proving competitive IP and selection as audio supplier at major handset suppliers

Customer Driven Products Include:

- Class D Speaker Amp w/ Battery Boost for Power Mgt
- Class D and G Audio Subsystem w/ Pop and Click reduction
- Class G Headphone Amp w/ Integrated Buck for Power Mgt

Mobile Audio Focus SAM ($M)

Source: Fairchild

Dig Mic IC (PGA + ADC) w/ low sleep current and Enhanced SNR

Dig Mic = Digital Microphone IC
Sub = Audio Subsystem
SPA = Speaker Amplifier
HPA = Headphone Amplifier
Increasing Power Consumption

- **2G**
  - GSM
  - GPRS
- **2.75G**
  - EDGE
- **3G**
  - UMTS
  - WCDMA
  - TD-SCDMA
- **3.5G**
  - HSDPA
  - HSPA
- **Pre 4G**
  - WiMax / WiFi
  - WiBro
- **4G**
  - LTE

**DATA RATE (bps)**
- **9.6k**
- **56k**
- **180k**
- **14Mbps**
- **384K**
- **70M**
- **172M**

**Applications**
- **VOICE**
  - SMS
- **Internet**
  - Browsing
  - Email
- **Video call**
  - Video Download
  - Interactive Gaming
- **Video Conference**
  - Video Broadcast
  - VOIP
- **HDTV**
  - Multiview Video
  - Digital TV

**Talk / Connection time**
- **10hr**
- **5hr**
- **2:30hr**
- **1:00hr**
- **?hr**
Battery Life in Smartphones

<table>
<thead>
<tr>
<th>Storage Capacity</th>
<th>iPhone 3G S</th>
<th>Palm Pre</th>
<th>MyTouch 3G</th>
<th>Motorola Droid</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>16GB</td>
<td>8GB</td>
<td>16GB</td>
<td>16GB</td>
<td>50GB</td>
</tr>
<tr>
<td>Battery Life</td>
<td>3.3</td>
<td>3.3</td>
<td>3.0</td>
<td>2.3</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Bridging the energy gap:

- Higher energy density batteries (new Chemistries)
- Optimized usage of features (HW & SW)
- More efficient conversion of battery power
- Lower power consuming components

- Only 5 – 6.4 hrs of 3G talk time for leading smartphones
- Battery life gates user experience
- All 4 phones use a similar battery with a capacity of 1400mAh
- More functions…same battery form factor
Fairchild’s Mobile DC/DC Products

Battery Management
- Switching Chargers

RF Power Management
- RF DC/DC microPMIC RF subsystem

Lighting
- LCD back lighting
- AMOLED
- LED Flash

Core Power
- DC/DC converters for digital cores
- PMICs

Efficient DC/DC Conversion = Longer Battery Life
Core Power Management

- Low noise regulators for Proximity and accelerometers
- Step-down DC/DC for SD Flash Memory Cards
- Step-Up DC/DC converter of USB-OTG
- Multi-Channel + Mixed Signal for Image sensor modules

• Handset features and usage patterns continue to increase demands on energy efficiency
• Continues to drive adoption of switching DC/DC across a wider range of voltages
• Fast growing High Performance Analog Segment through 2014 (21% CAGR*)

*Q2 2010 iSuppli 2010-2014
Multi-Band RF Power Management

Switching Regulator for RF Saves Power, Extends Battery Life

3G/4G Smart Phone

+ 200 Minutes More Talk Time
+ 140 Minutes More Access Time
34% adoption today to 85% in 2013
Over 40% CAGR

Li-Ion Battery

FAN5902/4/5

Baseband Chipset

RF Transceiver

Runs 50% Cooler
Switching Battery Charger ICs

Energy efficient charging reduces charge times of Smart Phones by up to 50%

**Linear charging IC (conventional solution)**
- USB POWER
- 2.5W
- 1.2W
- Li-ion battery
- 4 - 7 Hours

**Switching DC/DC based charging IC**
- USB POWER
- 2.5W
- 2.3W
- FAN5400
- 2 - 3.5 Hours

- 38% adoption today to 85% in 2014
- Over 40% CAGR
Mobile Summary

• An analog business with a history and future of profitable growth

• Smart Phone addressable content continues to expand through adjacent product strategies

• We compete on the quality of our supply chain, manufacturing cost effectiveness, and breadth of IP/product portfolio to solve OEM needs

• Expect to double the business over the next 3-5 years
LV MOSFET Trends

- Process Technology Continues to Drive Cost and Performance
- Packaging Technology Shift Enabled by Process Drives Power Density
- Performance Segments Require Power Density Improvements
- Efficiency Gains are Highly Valued
- Good Market Growth at 8% SAM CAGR

Source: WSTS Fukuoka May 28th 2010 – projection 2010 - 2013
Process Technology Drives Cost and Performance

30V Die Size for 3mohm Die, (cm2)

20% Average Die Size Reduction per Technology Node

Enables:
- Die Cost Reduction (Margin Improvement)
- Smaller Package Footprint (Market Share)
Fairchild PowerTrench® devices deliver the same size advantage from 20V to 150V.
Power Density

Old Approach

2 X D-Pak 130 mm²

2 X SO-8 60 mm²

20A DC/DC

New Approach

2X 5x6 PQFN 60 mm²

2 X 3X3 PQFN 21 mm²

Power Stage 30 mm²
Power Density Improves Over 8X

<table>
<thead>
<tr>
<th>Package</th>
<th>Power Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO-8</td>
<td>74.2°C/W</td>
</tr>
<tr>
<td>Power 56</td>
<td>48.6°C/W</td>
</tr>
<tr>
<td>Power 33</td>
<td>59.5°C/W</td>
</tr>
<tr>
<td>Power 22</td>
<td>65.8°C/W</td>
</tr>
</tbody>
</table>

Transitions
- Power56 to Power33
- SO8 to Power33
- Power33 to Power22 and Power Stage Duals
Form Factor Leading Package Technology

- Form Factors for Singles:
  - **Power 22**
    - Form Factor: 4 mm²
    - $\Theta_{JA} = 65.8^\circ$C/W
    - $P_d = 475$ mW/mm²
  - **Power 33**
    - Form Factor: 11 mm²
    - $\Theta_{JA} = 59.5^\circ$C/W
    - $P_d = 190$ mW/mm²
  - **Power 56**
    - Form Factor: 30 mm²
    - $\Theta_{JA} = 48.6^\circ$C/W
    - $P_d = 86$ mW/mm²
  - **Reference: SO-8**
    - Form Factor: 30 mm²
    - $\Theta_{JA} = 74.2^\circ$C/W
    - $P_d = 56$ mW/mm²

A package portfolio to drive mobile computing transitions!
- Power56 to Power33
- SO8 to Power33
- Power33 to Power22 and PowerStage Duals
MOSFET Power in Notebook Computers

Focus Areas

**Notebook Vcore**
- PowerStage 5x6 Duals 30V
- Power33 NCH 30V sub 3mOhm
- Power56 30VPT8S

**Notebook DC:DC/Battery**
- PowerStage Dual 30V – 3x3, 3x4.5, 5x6
- Power33 NCH 30V 3-30mOhm
- Power56 NCH 30V 3-15mOhm
- Power33 PCH 30V ST3
- Power33 NCH 30V Dual Cool™

**N VDC Notebook/Tablet**
- PowerStage Duals – 25V
- Power33 NCH 25V Dual Cool™
- Power33 PCH 25V ST3
- Power22 NCH 25V PT7
- CSP 20V NCH Zener PT7
- Power33 NCH 100V (LED BLU)

Cost Effective Performance as Small as Possible

LV MOSFET Content $3.05 in 2013
**Focus Areas**

**LED BLU : Main Switching FET**
- N-CH PT5 100V
- N-CH PT5 150V
- N-CH PT7 40V
- Power33, Power56, SOT223 and DPAK

**LED BLU : Sync MOSFET**
- N-CH PT5 100V
- N-CH PT5 150V
- N-CH PT5 200V
- Power33, SOT223 and DPAK

**T-Con Board & Video Board :**
- PowerStage Duals – 30V
- Power33 NCH 30V PT7

**Efficient and Reliable Performance as Cool as Possible**

LV MOSFET Content $0.68 Today Growing to $1.33 in 2013
MOSFET Power in Power Over Ethernet

**Focus Areas**

**Power Sourcing Equipment Circuit**
Isolation switch with wide SOA
SOT223
Power 33

**Powered Device Circuit**
Isolation switch
SSOT3
SSOT6

**Powered Device DC-DC**
Primary Switch 150V
Power56, power33, SSOT3, SSOT6,
SO8, DPAK
Synchronous rectifier
30V SO8, SSOT6, power33, power 56

**Powered Device Bridge**
SSOT3
SO8 Dual
MLP Quad
Power33

**High Levels of Reliability as Small as Possible**

LV MOSFET Content $0.50 per port
MOSFET Power in Servers

Focus Areas

**Server Vcore/DDR**
- PowerStage56 25V
- Power33 25V PT8+
- Power56 25V PT7/8+
- Power56/33 Dual Cool
- DrMOS Multi-Chip-Module

**Server POLs**
- PowerStage56/34/33
- Power33 PT7/8
- Power56 PT7/8
- TinyBuck Integrated solution

LV MOSFET content grows from < $0.50 to > $5.00 in 2013
**Dual Cool™ vs. DirectFET®**

**Direct FET**
- Small Can: 7.2mΩ
- Medium Can: 2.4mΩ

**Dual Cool™**
- Component Area: 49mm²
- 3x3: 7.2mΩ
- Component Area: 21.5mm²
- 3x3: 2.4mΩ

**Compared Features**
- **Dual Cool is Smaller**
- **Dual Cool is More Efficient**
- **Dual Cool Runs Cooler**

**1Phase CCM - Heatsink, No Air**

Graph showing power efficiency % vs. load (A) for different MOSFETs from Fairchild and IR.

**Applications**
- Dual Cool 3x3 and 5x6 ramp in 2011
- Lead applications are performance computing

DirectFET is a registered trademark of International Rectifier.
PowerStage Clip vs. TI Stacked vs. Renesas

Power Stage is more efficient

Power Stage low ringing, no snubber

Power Stage runs cooler

Components Tested:
Fairchild FDMS3600S
Renesas RJK0214
TI CDS86350

Under typical application conditions, Asymmetric duals in 5x6 Power Stage is more efficient. Power Stage runs cooler and low ringing, no snubber. Efficiency and Power Loss:

- Fairchild FDMS3600S: 75°C @ 25A
- TI Stacked: 99°C @ 25A
- Renesas: 108°C @ 25A

Efficiency and Power Loss:

- Efficiency (%)
- Output Load (A)
- Power (W)

Lateral Stacked Silicon process exhibits higher ringing than Shielded-Gate Trench Technology.
Standardize Power Packages in order to minimize the amount of “unique” packages going into the Market.

Enable end customers to shift into smaller Form Factors.
Shifting the Form Factor

Utility SO-8’s to Dual 3x3’s

2 x SO-8  
60 mm²

MLP 3x3 Dual  
9 mm²

Tj = 102.8 °C

Tj = 95.2 °C
Fairchild Integrated PowerStage Solutions
High Side and Low MOSFETs in a Single Package

25A Buck Converter Solution

Standard Solution: 90mm$^2$
Better Performance, 3X Smaller Footprint

5A Buck Converter Solution

Standard Solution: 60mm$^2$
Better Performance, 7X Smaller Footprint

PowerStage Solution: 30mm$^2$
PowerStage Solution: 9mm$^2$
Market Segment Mix Improves Margin

- Gross margin increases over 3 year horizon
- Mix of performance computing, consumer and communications increases
Low Voltage MOSFET Summary

• Efficiency, Power Density, and Size are Valued in Performance Applications of the Communications, Consumer and Computing Segments

• Process and Package Technology are Key to Leading in These Value Dimensions

• Revenue Growth and Margin Expansion that Outperforms the Low Voltage MOSFET Market
Power Conversion, Industrial & Auto (PCIA) Group Overview
PCIA Business Overview

What Drives Our Business?

- Focus on improving the efficiency of customer’s applications
- Provide value through innovative Power Solutions
- Leverage our expertise in Discrete Technology, IC technology and Packaging Technology
Regulation and Policy Drives our Markets

- Eco-friendly policies are moving the market WW
  - Energy Labeling, Energy Efficiency
  - Adoption of inverters in motor control applications
  - Change from traditional lighting to LED, CFL
- Regional Examples:
  - EU: EPBD (Energy Performance of Building Directive): All new buildings should consume zero energy from 2019
  - EU: New Energy Labeling system
    - For Eco-Design: <B grade prohibited for sale after July 2010
    - Only A-20% & A-40% products can be sold after July, 2013/14
  - US: Energy Star strengthening (eg, SEER12 → SEER16 for A/C)
  - China: New Energy Labeling System from June, 2010
  - Japan: ‘Top Runner’ program with APF since 2006

- Clean energy and IT advances create whole new markets
  - Renewable energy; PV Inverter
  - Smart Grid; E-Vehicle Charger and Smart Metering
Inverter Driven Motors

- Brushless DC (BLDC) motors
  - Improved performance and efficiency
    - Lowers total cost of ownership
  - Reduced size = raw material savings
- Fairchild is well positioned to help our customers capitalize on the move from Mechanical control to Electronic solutions (inverters)
  - Our Smart Power Modules facilitate this transition easing the design requirements
  - Our IC’s can simplify the control of these motors

<table>
<thead>
<tr>
<th></th>
<th>AC</th>
<th>BLDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size/Weight</td>
<td>100%</td>
<td>70% of AC @1HP 55% of AC @2HP</td>
</tr>
<tr>
<td>Raw material cost</td>
<td>AC &gt;= BLDC driven by size/weight</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>40~45%</td>
<td>70~75%</td>
</tr>
<tr>
<td>Speed control</td>
<td>Difficult</td>
<td>Easy &amp; Linear</td>
</tr>
<tr>
<td>Accuracy of Speed</td>
<td>3~5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Torque control</td>
<td>Poor</td>
<td>Controllable</td>
</tr>
</tbody>
</table>
Induction Motor vs. BLDC Motor

**AC Induction motor**
- The induction motor is also known as a *rotating transformer*.
- Power is supplied to the **rotor** by electromagnetic induction.
  - This method of transferring power to the rotor lowers the efficiency.
- The motor turns because of the magnetic force exerted between a stationary electromagnet (stator) and the rotating electromagnet (rotor).
  - The phase difference requires greater current and current losses to achieve power.
- The stator is also powered by AC, the low frequency (50/60 Hz) requires a bigger magnetic-core and more windings to couple the current from stator to rotor.

**BLDC motor**
- A Brushless DC motor has permanent magnets on the rotor which eliminates the problems of inducing current to the moving armature.
- An IC controller keeps the stator current in phase with the permanent magnets of the rotor
  - This requires less current to turn the motor with the same output force
  - Resulting in greater efficiency and smaller size.

<table>
<thead>
<tr>
<th>Power loss</th>
<th>Induction Motor</th>
<th>BLDC Motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacitor loss (phase shift)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Controller loss</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Stator copper loss</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stator iron loss</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Rotor copper loss</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Rotor iron loss</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Mechanical loss</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Harmonic voltage &amp; current loss</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

**VAC**: 110V/220V; 50/60 Hz

The speed and efficiency of AC induction motor is restricted by its power source (the line voltage and frequency). The power source of BLDC motor is controlled by semiconductor devices, which can achieve high efficiency at various speed and output load.
“Inverterization” Drives SAM Expansion in Appliances

- Washing machines, refrigerators, air conditioners all require inverter driven motors to meet energy savings regulations
- Content: $2 - $20/system
- Our SPM solutions:
  - Reduce total system cost
  - Reduce development time
  - Optimize performance
  - Provide higher reliability
  - Reduce board space
- In 2009, SPM revenue remained flat to 2008
- Expect SPM revenue to more than double from 2010 to 2012

TAM growth of end markets is modest, but Inverter % grows rapidly

Source: IMS, iSuppli, Fuji Chimera, Darnell, WSTS etc
Fairchild Solutions for BLDC Motor Control

- **Rectifier, PFC** ($0.10-0.25)
- **Power Supply** ($0.30-0.45)
- **Motor Control IC** ($0.80-$1.80)
- **Power Module, HVIC, MOSFET, IGBT** ($2.00 - $20.00)

Fairchild provides all semiconductor products required for driving BLDC Motor

Content $3.20-$22.50

---

**BLDC, PMSM Motor**

Fairchild Shorted Anode Field-Stop IGBT
What is a Smart Power Module (SPM®)?

**Expertise to integrate analog, discrete and high voltage technology together**

**Integration of discrete components**

- IGBTs/FRFETs
- HVICs
- LVIC
- Peripherals: Bootstrap diodes, NTC thermistor

**Enhances Protection**

SPM’s built-in HVIC and LVIC with protection circuit

**Optimizes Design**

SPM optimizes driving characteristics for built-in power devices

**SPM integration, enhances productivity while simplifying manufacturing**

**Facilitates Manufacturing**

**Summary**

- Reduced total system cost
- Reduced development time
- Easy management
- Optimized control flexibility
- Higher reliability
- Board space savings
Application: Pump Drive

- Small overall pump growth but regulations in EU will push adoption of BLDC inverter
- Working with many of the world’s leading customers
- Broad portfolio of SPM products to address many needs
  - SPM5 → Circulation pump
  - SPM4 → 2ø General pump
  - 1200V SPM2 → 3ø General pump
- Content $
  - Circulation pump: $2.5 ~ $5.0
  - 2ø General pump: $18 ~ $36
  - 3ø General pump: $27 ~ $50
Application: Fan Motors

- In fans, like appliances, BLDC motor usage is rapidly outpacing traditional AC motors
- We provide both the IC control and power train
- Our SPM solutions outperform IGBT based one-chip solutions
  - MOSFET has superior efficiency in major fan motor area
  - MOSFET has superior ruggedness (10 times longer short circuit time)
- Our IC solutions provide customers with a simple way to implement control
- BOM$ (40W ~ 70W fan motor)
  - Module(SPM5) $1.6 ~ $3.0
  - Motor control IC $0.7 ~ $1.4

SAM CAGR of 18% 2010-2015

TAM CAGR of 6% 2010-2015
Application: Induction Heating and Microwave Oven

- The global penetration rate of inverter based Microwave Ovens (MWO) was estimated to be just over 10% in 2005
  - Adoption of inverter technology for MWO will improve the efficiency and the performance of MWO
  - The share of inverter based MWO is projected to grow to 40 ~ 50%
- Chinese manufactures start to design Induction Heated (IH) rice cookers as the demand of multifunction capabilities increase
- Energy Efficiency labeling program in Asia will also drive the market growth of IH rice cooker and inverter based MWO
Working Principle of IH Cooker

✓ Electromagnetic Induction + Skin Effect + Heat generation in cooking vessel

Heat is generated within the cooking vessel by Eddy Current

Cooking Vessel(Pot)

Inverter Module

Ceramic Plate

Work Coil

Magnetic Flux

Heat loss to air by convection

Heat loss to cooking stove by conduction

✓ Conventional Heating Methods

Cooking vessel is heated though thermal conduction or radiation from heat source including combustion of gas, hotplate with heating coil and thermal radiation from Halogan. So there is some amount of thermal energy loss due to conduction or convection during thermal energy transfer from heating source.

✓ Induction Heating Methods

Only electromagnetic energy is transferred to cooking vessel from Induction cooker, so there is no thermal energy transfer resulting in no thermal energy loss during the process. All the transferred electromagnetic energy is used to heat the cooking vessel itself.
Induction Heating Energy Savings

<table>
<thead>
<tr>
<th>Cooking Method</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induction</td>
<td>90%</td>
</tr>
<tr>
<td>Halogen</td>
<td>58%</td>
</tr>
<tr>
<td>Electric</td>
<td>47%</td>
</tr>
<tr>
<td>Gas</td>
<td>40%</td>
</tr>
</tbody>
</table>

Cost of heating ½ litre of water from 20° C to 95° C

Power Consumption for heating ½ litre of water from 20° C to 95° C
Application: Induction Heating & Microwave Oven

- Energy Savings and increased functionality driving adoption of inverters in cooking applications
  - Particularly strong in Asia and EU
- FCS provide a broad family of IGBT’s and Drivers for these applications
- Content:
  - IH cooktop:
    - 8 x 600V IGBT or 4 x 1200V IGBT
    - $3.70 ~ $7.60/system
  - IH tabletop:
    - 1200V IGBT,
    - $0.60 ~ $0.95/system
  - MWO:
    - 2 x 600V IGBT or 1-2 1000V IGBT,
    - $0.85 ~ $1.6/system
  - Rice Cooker:
    - 1000V IGBT or 1200V IGBT,
    - $0.85 ~ $1.90/system
- Key Customers Include: BSH Balay, Fagor, Midea, Fushibao, Panasonic, Hitachi, Cuckoo

TAM CAGR of 7% 2010-2015
SAM CAGR of 11% 2010-2015
**World Class Standby Power**

**Why is this important?**

- Current specs for cell phone chargers require <500mW under standby conditions
- Most chargers have standby power in the range of 30-150mW
- FCS has launched a <10mW solution
- Typical chargers are in standby >20 hours every day
- More than 1B chargers are sold annually

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**Potential Energy Savings with conversion to FCS IC**

- **Energy Savings/Day (MWh)**
  - 30
  - 150
  - 500

- **Standby Power of Comparison Charger (mW)**
  - <10mW
  - 30-150mW
  - >500mW

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**Energy Rating System:**

- Five stars = most energy efficient

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- Most chargers are rated 4-stars now

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Solutions for Your Success™
Smart Phone Chargers

- Smart Phones require increased power to drive additional performance
  - 5W+ needed from charger
- FCS controllers provide a unique feature set:
  - Best-in-class standby power
  - Accurate current and voltage regulation
  - Reduced component count
- Content up to $0.40 per charger
Application: High Efficiency Computing and Consumer - World Class Standby Power

Std by of LCD TV/ LED TV

- PowerSwitch which meets PC 2013 EuP <0.5W@0.25W w/o external circuitry

Std by of PC

- Green Mode PWM – only design for NPB adapter w/ <30mW@ no load

Broad Portfolio of patents filed to secure our power saving leading position

LCD/LED Monitor

- Green Mode PWM – best standby power performance <100mW@25mW

Std by of Printer

- Green Mode PWM – best combination of peak power and standby <30mW@ no load
Application: <75W Power

Strong Market Acceptance of our <75W solutions driven by our low load power and our high efficiency

Adoption drivers:
- Power Saving
- Peak power management (printer)
- Rich functionality
- Service support

Key Design in:
• NB: Acer, Dell, HP, Lenovo, Asus
• LCD Monitor: AOC, Innolux, LG
• Printer: HP, Samsung
• Game: Wii

Content ranges from $0.16 - $1.1
Application: High efficiency DT/NB Power Supplies

- Computing market continues to drive towards higher efficiency at full load while minimizing power at low loads
- FCS controllers provide a unique feature set:
  - Leading Patented Power Saving Technology
  - Higher efficiency
  - Reduced component count
  - Easy to design
- Content:
  - $1.50-$2.00 per PC
  - $0.65-$1.20 per NB adapter
Application: +75W NB Adapter – Multiple Solutions Available

- Content: $0.9~$1.2
- Next gen of NB adaptor solutions to meet 92%+ efficiency
- High integration provides cost effective design
- Wider power range 75W~250W
- Allows for very slim design

- Content: $0.65~$0.8
- Current mainstream solution for NB adaptors
- Meets 90%+ efficiency, high integration, 75W~150W
Application: PC Gold

- Content: $1.5~$2.0
- Multiple sockets necessary to meet High efficiency necessary for 80+ gold
- Low standby power to meet 2013 EuP lot 6 regulation: <0.5W@0.2W
Automotive Power Solutions

Robust Auto Solutions for energy efficient applications

- Engine Management
  - Ignition, Glow Plug
  - Injector control and supply
- HID Lighting
- Engine Cooling
- Transmission and Gearbox
- Electric pumps (water, fuel, oil)
- DC/DC in HEV / EV
- Braking (ABS, ESC)
- Electric Power Steering
- El. Parking Brake

Solutions for Your Success™
(HPS) Purely hydraulic power steering
Pump mechanically attached to the engine. Pump power output proportional to RPM. Pump must satisfy assistance at min RPM, thus at high RPM energy is wasted.

EHPS
Pump mounted locally. Pump powered by an electrical motor only upon demand.

EPS
No Pump, no hydraulic fluid. An electrical motor provides assistance upon demand.
Application: Automotive Power Modules for Electric Power Steering

- **EPS/EHPS:**
  - Saves fuel (up to 7%)
  - Improves performance
  - Simplifies mechanical design
  
  *Increasingly adopted in new vehicles - conventional as well as EV/Hybrid*

- **APM Modules help to:**
  - Optimize power output
  - Improve reliability
  - Ease design through integration of components
  - Ease installation due to compact design
Application: Automotive Power Modules for EPS

- $12 to $25 per system / vehicle
- **2009:** Fairchild sold modules for 300k vehicles
- **2010:** Modules for 900k vehicles will be sold by end of the year
  - 3 platforms and 5 car models
- **Outlook 2012:** 2-3M Fairchild APM modules
  - 9 platforms with 20 car models will be in production by end 2012
- Other hydraulic systems are all potential opportunities
Application: Automotive IGBTs for Ignition Systems

- Fairchild supports the full portfolio of IGBTs for Ignition systems

- **Fairchild Ignition IGBT products:**
  - Improve thermal management in a reduced footprint
  - Facilitate high system reliability
  - Best in class energy handling capability
  - Simplify design
  - Improve fuel efficiency

**Fairchild is the number one supplier across all ignition architectures, from “Coil on Plug” to advanced multispark “Switch on Plug” systems**
Application: Automotive IGBTs for Ignition Systems

- **Strong growth:**
  - **2009:** 61Mu/year (Y-on-Y growth)
  - **Forecast 2010:** 94Mu/year
  - **2012:** targeting > 110Mu/year

- **Content:** $2 to $10 for a 4 cylinder gasoline vehicle

- **Further growth will be fueled by:**
  - New technologies allowing for reduced die size hence smaller packages
  - New Smart Ignition and Ignitor Module products

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**EcoSPARK® delivers benchmark energy capability per unit area**
PCIA Summary

• PCIA are in a “Target Rich” environment
  • While many of our end markets have single digit TAM growth…
  • …Energy efficiency is driving double digit SAM growth.

• Our technology should allow us to take significant market positions
  • We have a unique combination of IC, Discrete and Packaging capabilities to create value added products
Finance Overview
Highlights of the Quarter – Q4 2012

- Sales were $333m, down 7% QoQ and 2% YoY
- Reduced distribution channel inventory by a larger-than-expected by $17m QoQ...down to 9.5 WOI
- POS down just 2% QoQ...better than typical -6% Q4 seasonality
- Bookings increased significantly during Q4 and now running solidly positive B:B in Q1...demand is broad based
- Gross margin was down nearly 4 points to 30% due primarily to lower factory loadings and incrementally higher 8” costs
- OPEX was better than guidance...Q1 OPEX guidance reflects resumption of certain taxes and variable compensation
- Decreased internal inventory $ by 2%...DOI at a comfortable 93 days
- Pricing was down <2% QoQ...expect similar trend in Q1
- Utilization decreased again and remains below 80%...increasing loadings now to support higher demand
- Lead times remain short and supply chain is well positioned to support higher demand
Q1 Forward Guidance Provided at Q4 Earnings Call

• Sales expected to be $330 – 350m...current scheduled backlog nearly sufficient to cover the low end of this range

• Gross margin expected to be 29% +/- 50 bps due primarily to lower factory loadings and incrementally higher 8” fab startup costs in Korea

• R&D and SG&A forecast at $90 - 93m

• Adjusted tax rate forecast to be between 15% +/-3%
Adjusted Revenue & GM%
Adjusted EPS

Includes Equity Comp ($0.32)
Balance Sheet Improvement
Disciplined Asset Management

• Q4 balance sheet remains very strong:
  • Cash and investments exceed debt by $159m
  • Paid down another $50m in debt…now at lowest level in company history at $250m
  • Internal inventory at a comfortable 93 DOI
  • DSO improved to 37 days
  • Days of payables flat QoQ at 45 days

• FCF was +$49m due to lower CAPEX and improved cash conversion

• Primary focus remains investing in our business
  • Small MEMS acquisition in Q4 2010
  • Small SiC acquisition in Q1 2011
  • Capex for conversion to 8” mfging and new products
  • Repurchased shares to offset equity compensation dilution
4 Qtr Rolling FCF % Revenue
Debt Composition

- Drawn Revolver
- Term Loan
- Convert
- High Yield


Values: 0, 200,000, 400,000, 600,000, 800,000, 1,000,000, 1,200,000

Graph showing debt composition from 1997 to 2012 with different colored bars for each category.
Net Debt & Interest Trend

Net Cash

Interest % of Revenue


-700.0 -600.0 -500.0 -400.0 -300.0 -200.0 -100.0 0.0 $100.0 $200.0 $300.0 $400.0 $500.0 $600.0 $700.0

0.0% 1.0% 2.0% 3.0% 4.0% 5.0% 6.0% 7.0% 8.0% 9.0%

Solutions for Your Success™

www.fairchildsemi.com
Why Fairchild is Winning

Focus on Large, Industry-Leading Customers in Fast-Growing Markets

World-class SCM and WW Reach Make Fairchild a Good Fit in the Top 3 – 5 Supplier EcoSystem

Disciplined SCM, Capex & Asset Mgmt Generates Higher ROI & Cashflow

Great Technology & IP Creates Higher Barriers and Strong Growth in Target Margin Band

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